

## CHAPTER 2

# Our Natural Environment



**Figure 2.1** What land and water forms are evident in these photographs? How are the forms of human activity shown related to the environment?

Your school is participating in an international student exchange program. A student from New Zealand will be spending the summer and fall term with a family in Atlantic Canada. Your principal has asked you to work with several other students to put together a kit about the physical environment of Atlantic Canada as useful information for the exchange student.

- What features of the natural environment would you consider to be of interest to the exchange student?
- In what ways can you show how people in Atlantic Canada interact with their physical environment?

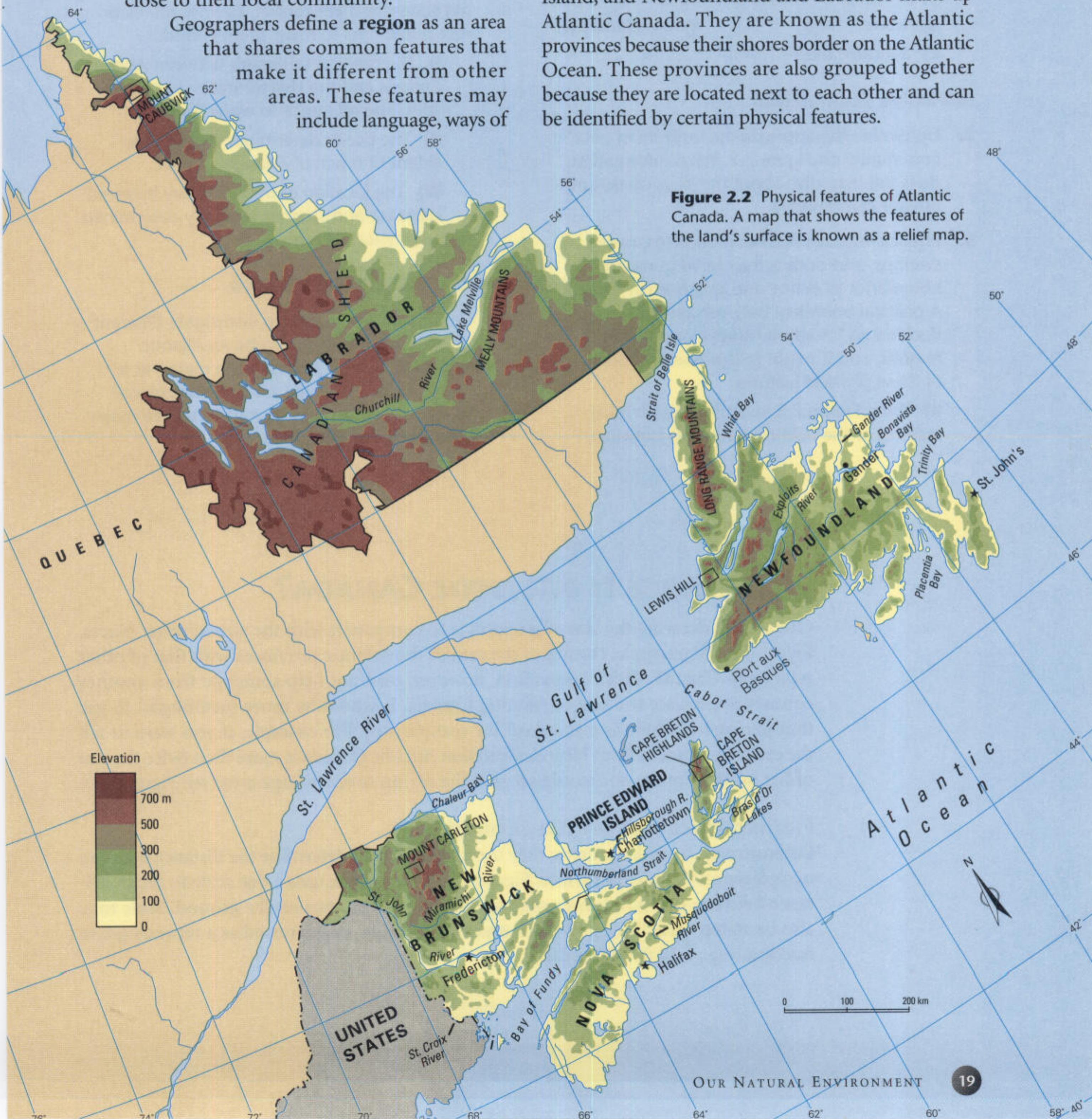
## ATLANTIC CANADA AS A REGION

Canada, with its area of 9 970 610 km<sup>2</sup>, is the second largest country in the world. In a country so large, people in one area may have little contact with those who live in another. As a result, people often identify most closely with those who live in a region close to their local community.

Geographers define a **region** as an area that shares common features that make it different from other areas. These features may include language, ways of

making a living, cultural expressions, physical environment, climate, or location. Many of these features are covered in later chapters of this text. This chapter will focus on features of the natural environment.

New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador make up Atlantic Canada. They are known as the Atlantic provinces because their shores border on the Atlantic Ocean. These provinces are also grouped together because they are located next to each other and can be identified by certain physical features.



**Figure 2.2** Physical features of Atlantic Canada. A map that shows the features of the land's surface is known as a relief map.

# EXPLORATIONS

## REVIEWING THE IDEAS

1. Survey the different kinds of maps provided in this unit, and describe the following:
  - a) a topographic map
  - b) a street map
  - c) a locator map
  - d) a relief map
  - e) a political map

## APPLYING YOUR SKILLS

2. Determine the approximate location of your community on Figure 2.2. What information does the map give about the physical features of your community?
3. Physical features such as mountains, rivers, swamps, and oceans may serve as natural boundaries to define one area from another. A political boundary between two areas is decided on for administrative or political reasons, and it might follow one or more of these physical features.
  - a) Using Figure 2.2, examine the physical features of the political boundary between

Quebec and New Brunswick. Which natural features help determine the location of this boundary?

- b) With a partner, decide which of the following statements are correct. Rewrite the incorrect statements to make them correct.

- i) The political boundary between Atlantic Canada and the United States was drawn with little reference to water forms.
- ii) The ocean determines the eastern extent of much of Atlantic Canada.
- iii) The location of the boundary between Labrador and Quebec is largely determined by physical features.

## ANALYZING AND REFLECTING

4. Conduct a class survey to investigate different views of what it means to be an Atlantic Canadian. What features of the region as a whole make it different from other regions? Which shared features of your local area make it distinct from other areas?

## How Large Is ATLANTIC CANADA?

One way to describe the size of a region is to compare it with the size of other places. Figure 2.3, for example, compares the area of the Atlantic provinces with that of other regions in Canada. This comparison, however, may not help someone from another country appreciate the size of Atlantic Canada. It would be more meaningful to use that person's country as a standard for comparison. For example, if you were to tell the exchange student from New Zealand that Atlantic Canada is more than twice the size of her home country, she would see that the region covers a large area (see Figure 2.4).

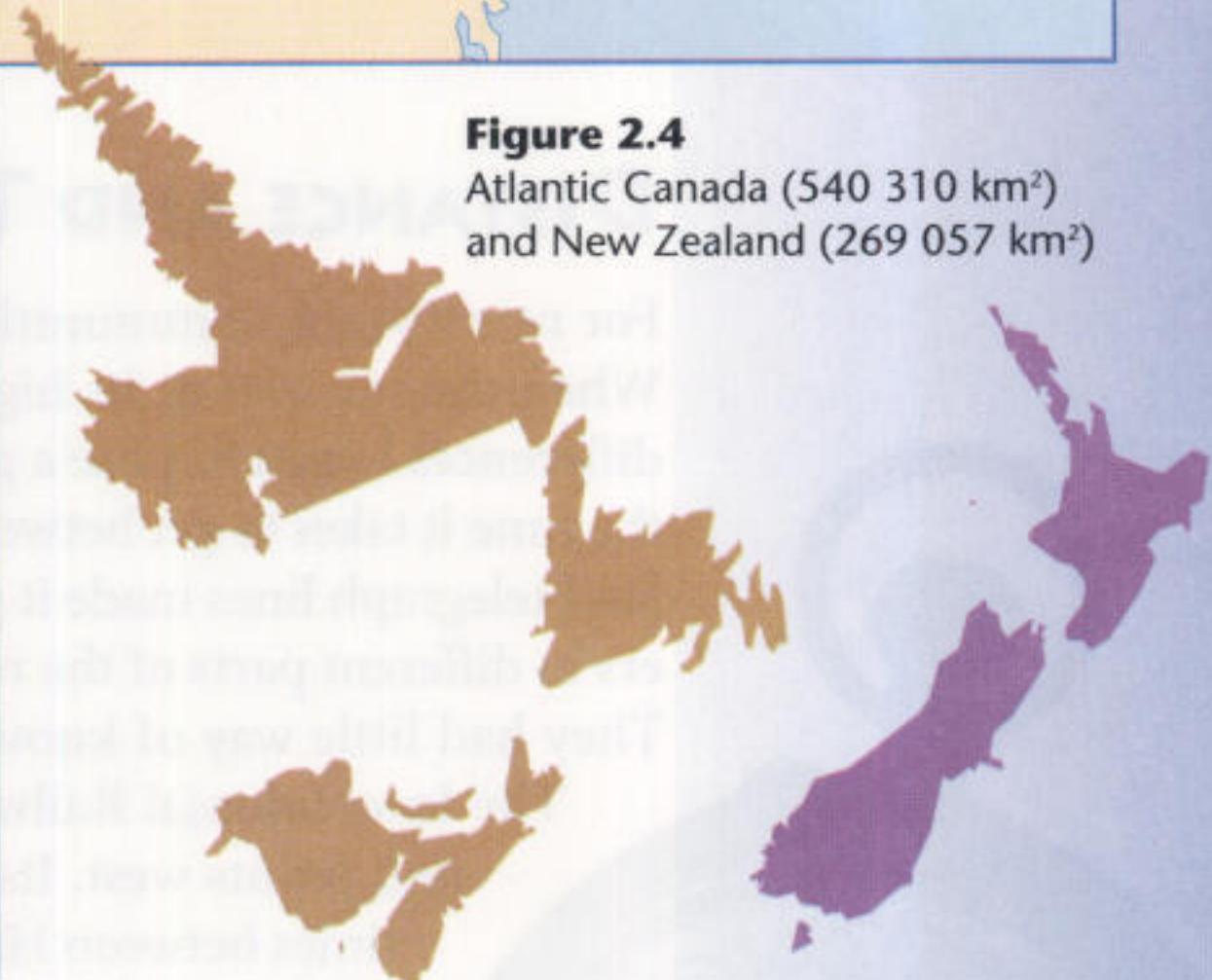
### Finding Distances on the Ground

Because maps cover large areas, they use a **scale** to help determine the distance between two places on the earth's surface. Figure 2.2, for example, uses a line scale to relate distance between two points on a map and the actual distance on the ground. Scale may also be stated verbally (e.g., 1 cm represents 100 km), or expressed as a representative fraction (e.g., 1:10 000 000 cm).

**Figure 2.3** Area of Canada's provinces and territories



**Figure 2.4**  
Atlantic Canada (540 310 km<sup>2</sup>)  
and New Zealand (269 057 km<sup>2</sup>)



The line scale drawn on the map in Figure 2.2 may be used to find the distance between selected points in Atlantic Canada. To find the distance between St. John's and Port aux Basques, for example, you could use the following steps: Construct a paper-strip ruler by placing a strip of paper along the scale line. Make a pencil mark at the 0, 100 km and 200 km points. Next, place the 200 km mark you have just made at 0 on the line scale and mark off another 200 km in 100 km intervals. Repeat this until you have covered the map distance from St. John's to Port aux Basques. Add all the 100 km intervals you have marked off on the strip of paper. About how far is it from St. John's to Port aux Basques? The measured distance between two points is referred to as **physical distance**.

# EXPLORATIONS

## REVIEWING THE IDEAS

- Assume you have a map on which 1 cm represents 5 km.
  - Draw a line scale for the map.
  - Express the scale as a representative fraction.

## APPLYING YOUR SKILLS

- Refer to Figure 2.3.
  - Estimate which of the *regions* (not provinces) is the largest and which is the smallest.
  - Calculate the size of each region.
  - Rank the regions from the largest to the smallest. How accurate was your initial estimate?
  - How does the area of Atlantic Canada compare with that of the other regions of Canada?

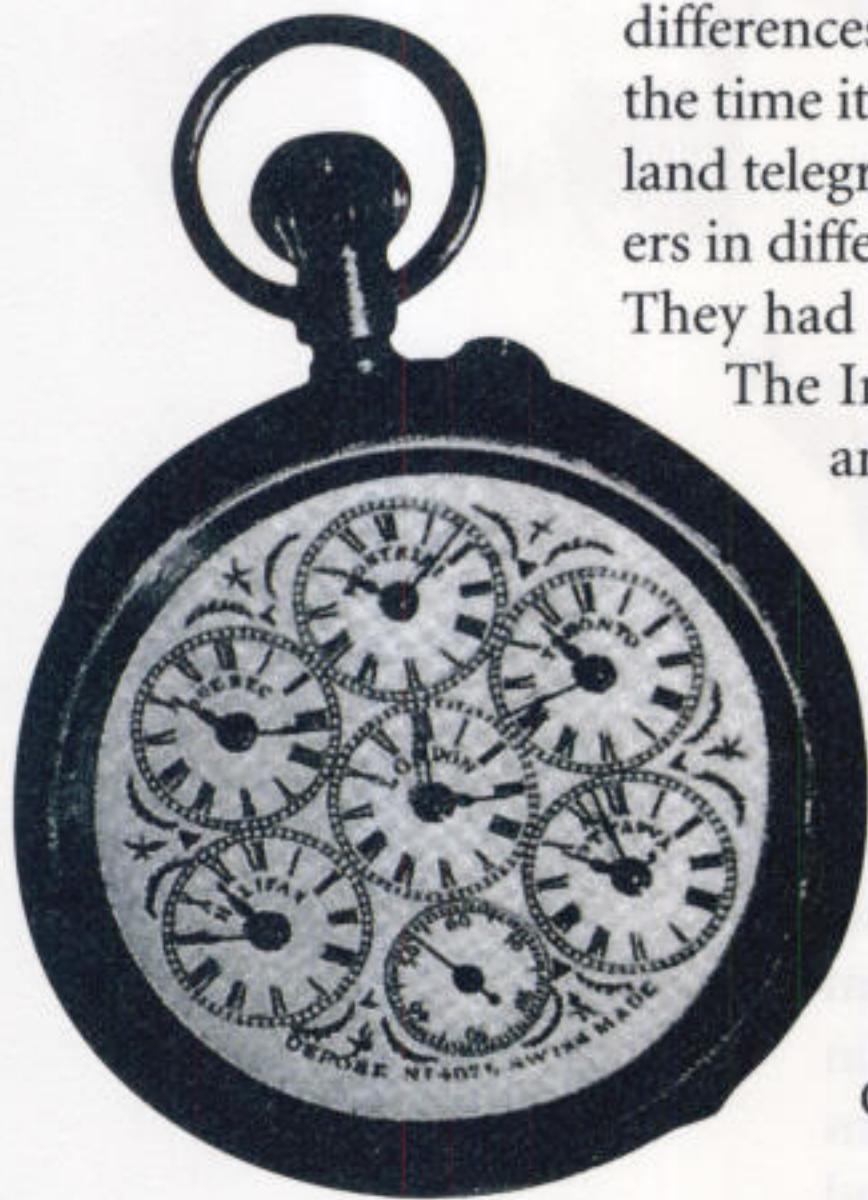
- Using Figure 2.3, measure the distance between:
  - the northernmost and southernmost points of your province
  - the most easterly and westerly points of your province
- Make a chart or diagram to record the distances.

## CONNECTING AND EXTENDING

- Use a graph to indicate size.
  - Using an atlas, print or CD-ROM encyclopedia, or the Internet, identify the five largest countries in the world.
  - Draw a bar graph, or make one on a computer, to show the sizes of these countries. Remember to label both axes of the graph and the bars. Give your graph a title.

## DISTANCE AND TIME

For many years, communities across the world set their clocks according to the sun. When the sun was at its highest point, it was 12 noon. During the mid-1800s, time differences began to pose a problem as communications improved. **Time distance**, or the time it takes to get between given points, was shrinking. Undersea cables and overland telegraph lines made it possible for Atlantic Canadians to communicate with others in different parts of the region, in different parts of North America, and in Europe. They had little way of knowing, however, what the time was in other communities.



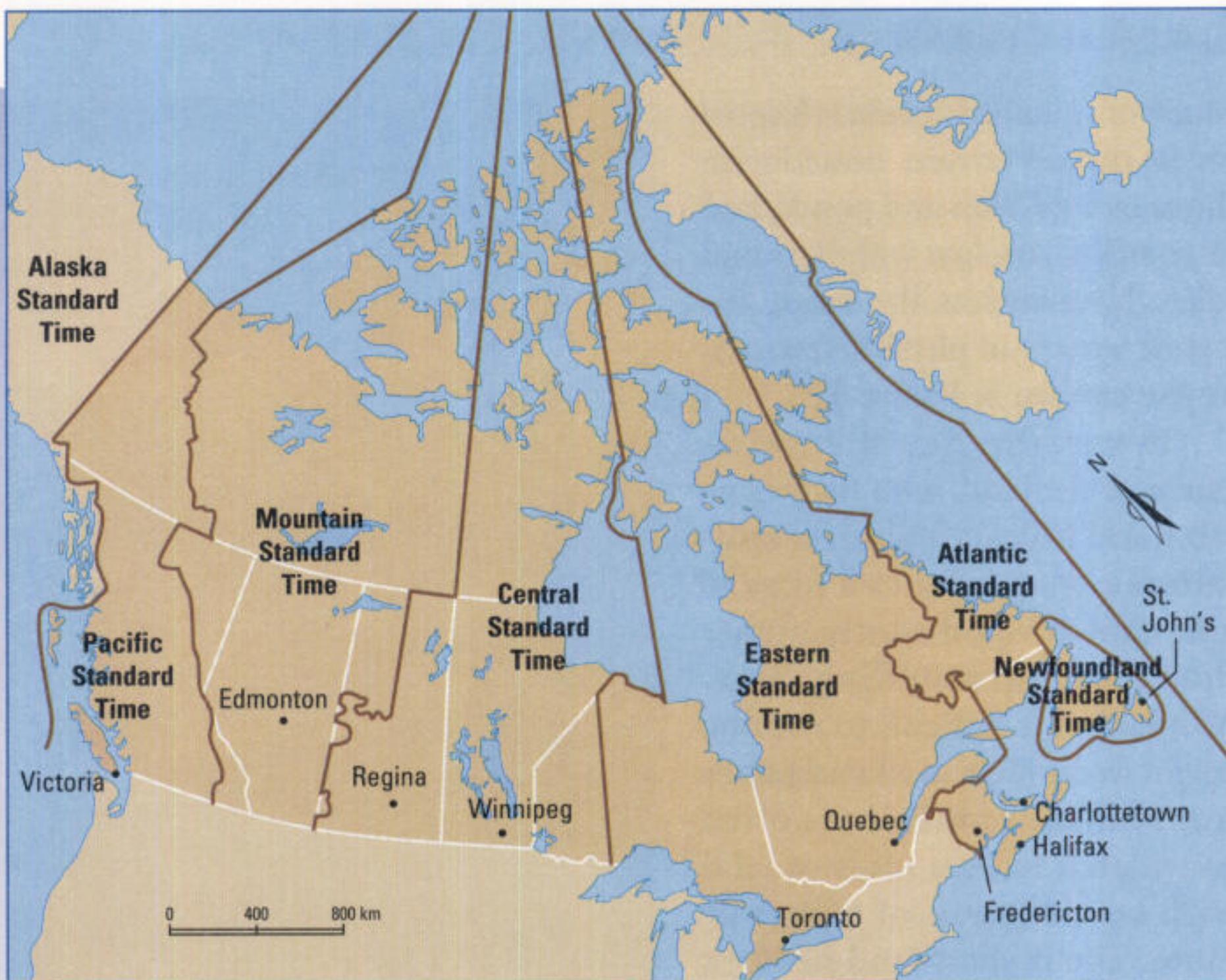
The Intercolonial Railway increased the speed of travel within Atlantic Canada and points west. Its schedules, however, had to deal with five different local times between Halifax and Toronto. To help deal with such situations, special watches were manufactured, with as many as seven dials, to show time in different cities.

A Canadian surveyor, engineer, and scientist proposed a solution. In 1879, Sir Sandford Fleming suggested that the globe be divided into 24 **time zones**, one for each 15 degrees of longitude. Time zones to the East are one hour ahead, and time zones to the West are one hour behind. Fleming's plan was adopted at the 1884 International Prime Meridian Conference in Washington, D.C.

**Figure 2.5** Watches such as this one were used to show different local times.

## DID YOU KNOW ...?

Newfoundland Time is one-half hour later than Atlantic Time. When 25 countries agreed at the Prime Meridian Conference to adopt standard time, Newfoundland had two obvious choices. It could have adopted Atlantic Time (4 hours behind Greenwich Time) or it could have adopted Greenland Time (3 hours behind Greenwich Time). Rather than adopting either of these choices, Newfoundlanders decided to set their clocks 3 hours and 30 minutes behind Greenwich Time. In fact, St. John's is exactly 3 hours and 31 minutes behind Greenwich.



**Figure 2.6** Time zones in Canada. Note that Newfoundland Standard Time extends into southern Labrador, although most of Labrador is on Atlantic Standard Time. In which time zone do you live?

## EXPLORATIONS

### REVIEWING THE IDEAS

1. Make a simple cause and effect chart to show how developments in the mid-1800s created a need for standard time zones.

### APPLYING YOUR SKILLS

2. Team Canada is playing Team USA in a hockey match in Edmonton. Live coverage of the game is due to start at 7:00 p.m. Edmonton time. At what time will the game start on television in your community?  
  
**a)** According to Figure 2.6, if you were to travel from Halifax to Toronto, how many times would you adjust your watch?  
  
**b)** A business person is flying from Moncton to Gander, a trip that will take 2 hours. If the

flight leaves Moncton at 11:00 p.m., when will the person arrive in Gander?

### ANALYZING AND REFLECTING

4. All provinces in Canada, except for Saskatchewan, move their clocks forward by one hour in the spring. This adjustment is known as "daylight saving." In a small group, brainstorm the advantages of daylight saving. Why do you think daylight saving is not considered practical in Saskatchewan?

### CONNECTING AND EXTENDING

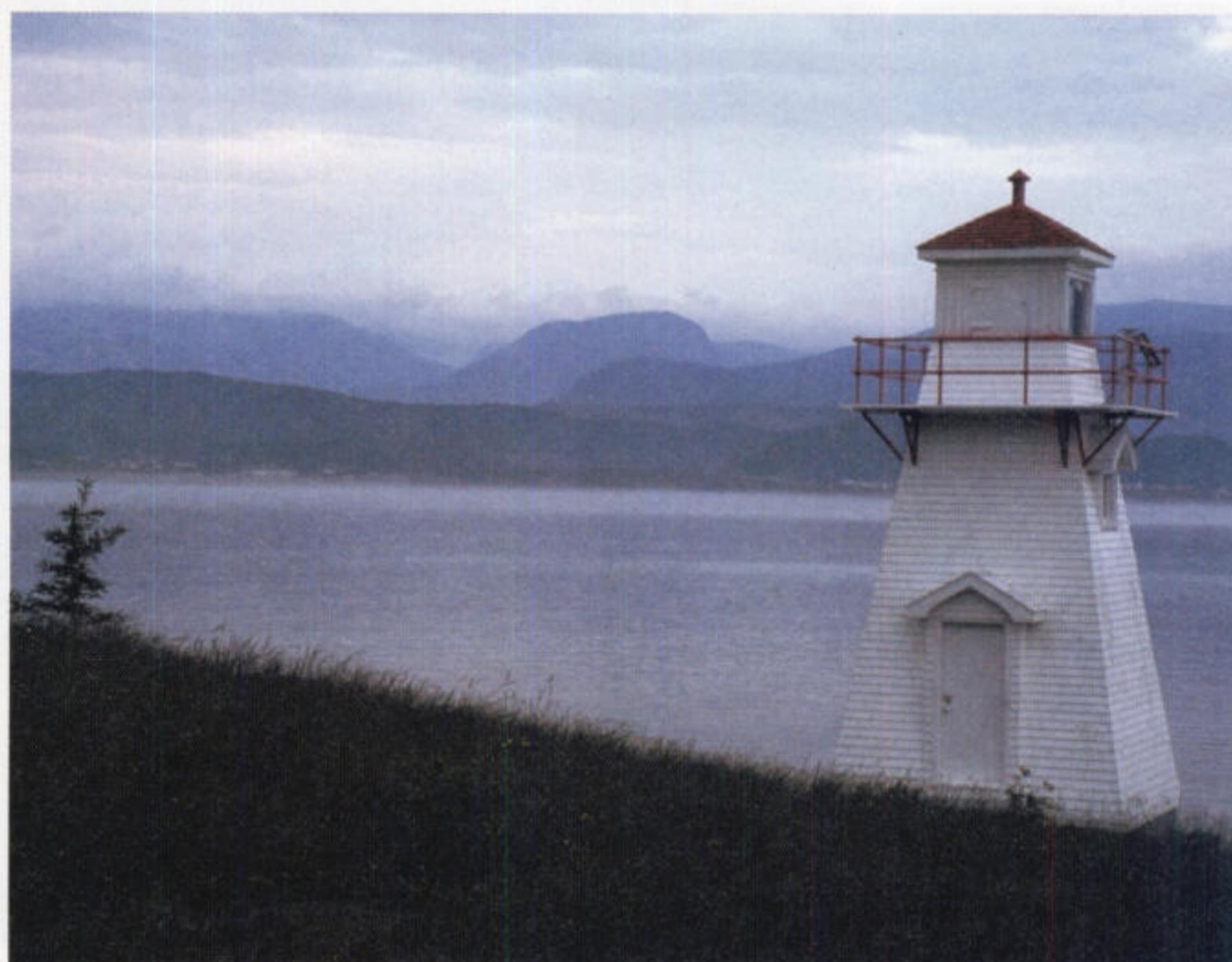
5. Do some research to find out why the  $180^{\circ}$  line of longitude is called the International Date Line. Check atlases and encyclopedias.

## LANDFORMS IN ATLANTIC CANADA

Much of Atlantic Canada is known for its rugged terrain, dotted with thousands of lakes and ponds, and its coastline, broken with bays and inlets. Nevertheless, the region has a wide variety of physical features, as you can see in Figure 2.2.

In northern New Brunswick, much of the land, with its mountains and hills, is high. A **mountain** can be defined as a mass of land that is significantly higher than the surrounding area. Although it is difficult to use one height to distinguish all mountains from hills, a mountain is often considered to be a mass of land with an elevation of 600 m or more. The highest land in Nova Scotia is found on Cape Breton Island, but other parts, such as the Springhill to Stellarton and Annapolis Royal to Windsor areas, are also hilly. In Prince Edward Island, the highest land is found in the hills of the central region, while gently rolling hills are found in the east and west. The most striking physical feature on the island of Newfoundland is the Long Range Mountains which run along its western side. East of these mountains, much of the island is formed by an upland area with rolling hills and valleys, lakes, ponds, and bogs. An upland area generally has an elevation of 100 m to 400 m.

The mountain and upland systems of Newfoundland are part of the Appalachian Mountains, which extend across the rest of the



**Figure 2.7** A view of Woody Point, Newfoundland, with the Long Range Mountains in the background

Atlantic region and into the United States as far south as the state of Georgia. These mountains were formed by **folding** — a bending of the earth's crust. They were once high and jagged, but erosion over their 300-million-year history has reduced them to low mountains and rolling hills separated by wide valleys.

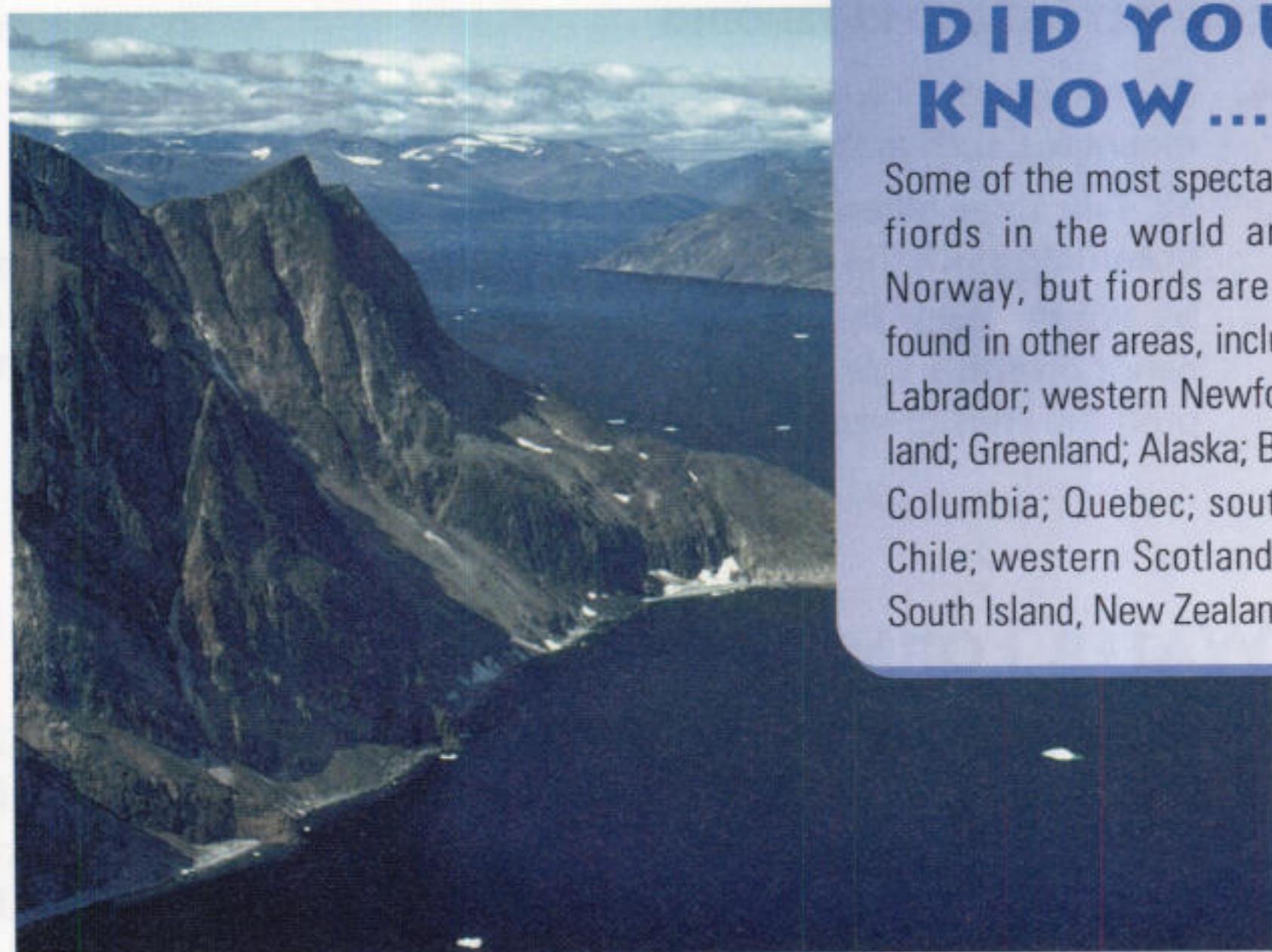
In Labrador, however, the land is an extension of the Canadian Shield, a vast area of rock that stretches across central Canada. Although the mountains in Labrador have been heavily eroded by glaciers, some are rugged and high.

**Table 2.1** Atlantic Canada: Principal elevations by province

Province	Mountain/Hill	Elevation	Absolute Location
Newfoundland and Labrador	Lewis Hills	806 m	48°50'N 58°29'W
	Mount Caubwick	1652 m	58°43'N 63°43'W
Nova Scotia	Cape Breton Highlands	532 m	46°62'N 60°36'W
New Brunswick	Mount Carleton	817 m	47°23'N 66°53'W
Prince Edward Island	Queen's County	142 m	46°20'N 63°25'W

## The Power of a Glacier

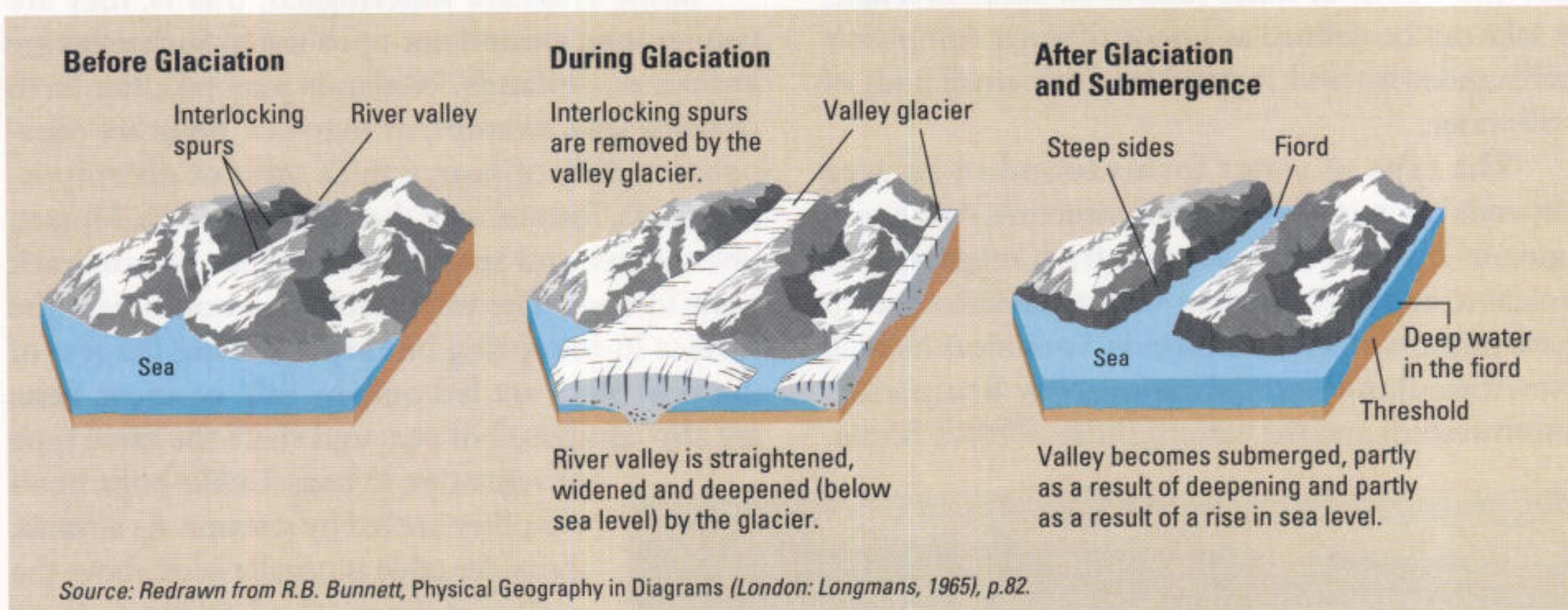
A **fiord** is a long, narrow inlet of the sea, bordered by steep mountain slopes. All fiords were once river valleys. During the last ice age, glaciers scoured these valleys, making them deeper and the sides steeper. This action changed the V-shape of the valley to a U-shape. Once the ice melted, the sea “drowned” the valley, creating the fiord. Fiords are found along the coast of Labrador.



**Figure 2.8** Nachvak Fiord, in northern Labrador. Fiords are considered to be one of the most dramatic of landforms. Explain why with reference to this photograph.

## DID YOU KNOW...?

Some of the most spectacular fiords in the world are in Norway, but fiords are also found in other areas, including Labrador; western Newfoundland; Greenland; Alaska; British Columbia; Quebec; southern Chile; western Scotland; and South Island, New Zealand.



**Figure 2.9** Sequence in the development of a fiord

## EXPLORATIONS

### REVIEWING THE IDEAS

1. Why are the Appalachian Mountains generally rounded in appearance?

### APPLYING YOUR SKILLS

2. a) According to Table 2.1, which province has the highest point of land?  
b) Using the absolute location given in Table 2.1, locate this point on the map in Figure 2.2. Describe its relative location.

3. Refer to Figure 2.2.

- a) Lowlands are large low-lying areas of flat or gently rolling land. Describe the relative location of such an area in New Brunswick and Nova Scotia.  
b) Which province in Atlantic Canada has the largest share of its area in the form of lowlands?  
c) What is the elevation of the highest point of land in this province? (Refer to Table 2.1.)

## CONNECTING AND EXTENDING

4. Do an experiment to demonstrate how fold mountains, such as the Appalachians, are formed.
    - a) Take three different coloured strips of plasticene and stack them on top of each other.
    - b) Put the stack on a firm surface. Place your hands on either side of the stack and slowly push the ends towards each other.
  - c) What changes do you observe in the layers?
  - d) Make a diagram to record your observations.
5. On a world map, locate the countries in which fiords are found. If necessary, look at separate relief maps of each of these countries. What do the locations of fiords have in common?

## WATER FORMS IN ATLANTIC CANADA

With the aid of satellite imaging technology, it has been determined that Atlantic Canada has more than 295 000 inland lakes, ponds, and rivers. A **river** can be defined as a long, narrow body of water that flows in a channel from high to low land and empties into a body of water such as an ocean or a lake. A **lake** can be defined as a body of water completely surrounded by land. A **pond** is a fairly small body of still water.

The type of water forms found in an area depends upon underlying rock structure. Areas with igneous bedrock (rock formed from magma, after volcanic activity) overlain with thin soils tend to have numerous lakes and ponds. Such areas include Newfoundland and Labrador, New Brunswick, southwestern and the eastern shore of Nova Scotia,

and northern Cape Breton. Areas with sedimentary bedrock (rock formed by the build up of layers of rock particles) overlain with thick soils tend to have more rivers and streams. Such areas include the St. John River valley and much of Prince Edward Island.

Some areas are waterlogged; that is, they are neither solid ground nor open water. Such areas are known as **wetlands**. Wetlands may take the form of bogs, fens, swamps, or marshes. **Bogs** are composed mainly of peat, a thick mass of decomposing plants, formed over thousands of years. Mosses, low shrubs, and sparse black spruce or tamarack grow in bogs. The water table in a bog is near the surface in the spring but lower during the rest of the year. Bogs are fed only by rain or snow. **Fens** are also composed of peat and share the same type of vegetation as bogs. Unlike bogs, however, they are fed by streams. As a result, the water table is usually at or above the surface of the peatland. **Swamps** occur where water collects in pools. In forested areas, swamps contain mature trees such as the black spruce. In thicketed areas, swamps contain tall shrubs such as the alder and willow. **Marshes** are areas that are either permanently or seasonally covered by water. Stands of sedges, grasses, and rushes are divided by channels that carry off water very slowly. Cattails and water lilies are typical marsh plants.



**Figure 2.10** The Margaree River as it empties into the Gulf of St. Lawrence

## FOCUS ON AN ISSUE

### Our Fragile Wetlands

If you have ever visited any wetlands, you know that they present a unique landscape and provide habitat for numerous plants and animals. Wetlands are also considered to be nature's kidneys. Plant-filled channels in the wetlands filter slow-moving water, trapping sediments and contaminants. The water that drains from a wetland is clear and clean.

Wetlands, however, have not always been valued. Many have been drained in the construction of roads or buildings. Others have been

used as garbage dumps. Some wetlands have been drained to provide rich land for agriculture, and peat has been mined from bogs or fens to be used for growing plants elsewhere or for burning. Wetlands are very fragile, and even human feet can do damage, crushing the top layer of plants and splitting the roots below. Heavy all-terrain vehicles that sometimes cross wetlands during the building of a road or other development cause extensive damage.

Many environmentalists believe all wetlands should be protected, as they are in national parks such as New Brunswick's Kouchibouguac. Others maintain that we can continue to use wetlands, as long as we do so responsibly. The key, they argue, is to use them in a limited way that will allow these areas to renew themselves.

*Source: Adapted from D. Minty et al., Finding the Balance (St. John's: Breakwater Books, 1993).*



**Figure 2.11** Classify this wetland as a bog, fen, swamp, or marsh. Give reasons for your choice. Identify wetlands in your local area. How do residents of the area use these wetlands?

#### ANALYZING THE ISSUE

Work in a small group.

1. Assume that a new road is planned to pass through wetlands not far from your community. Would you support or oppose the plan? Why? What alternatives to the plan might you be able to propose?
2. As an opponent to the plan, what steps could you take to encourage protection of the wetland? Try to reach a consensus on a course of action with your group.
3. Present your ideas to the class.

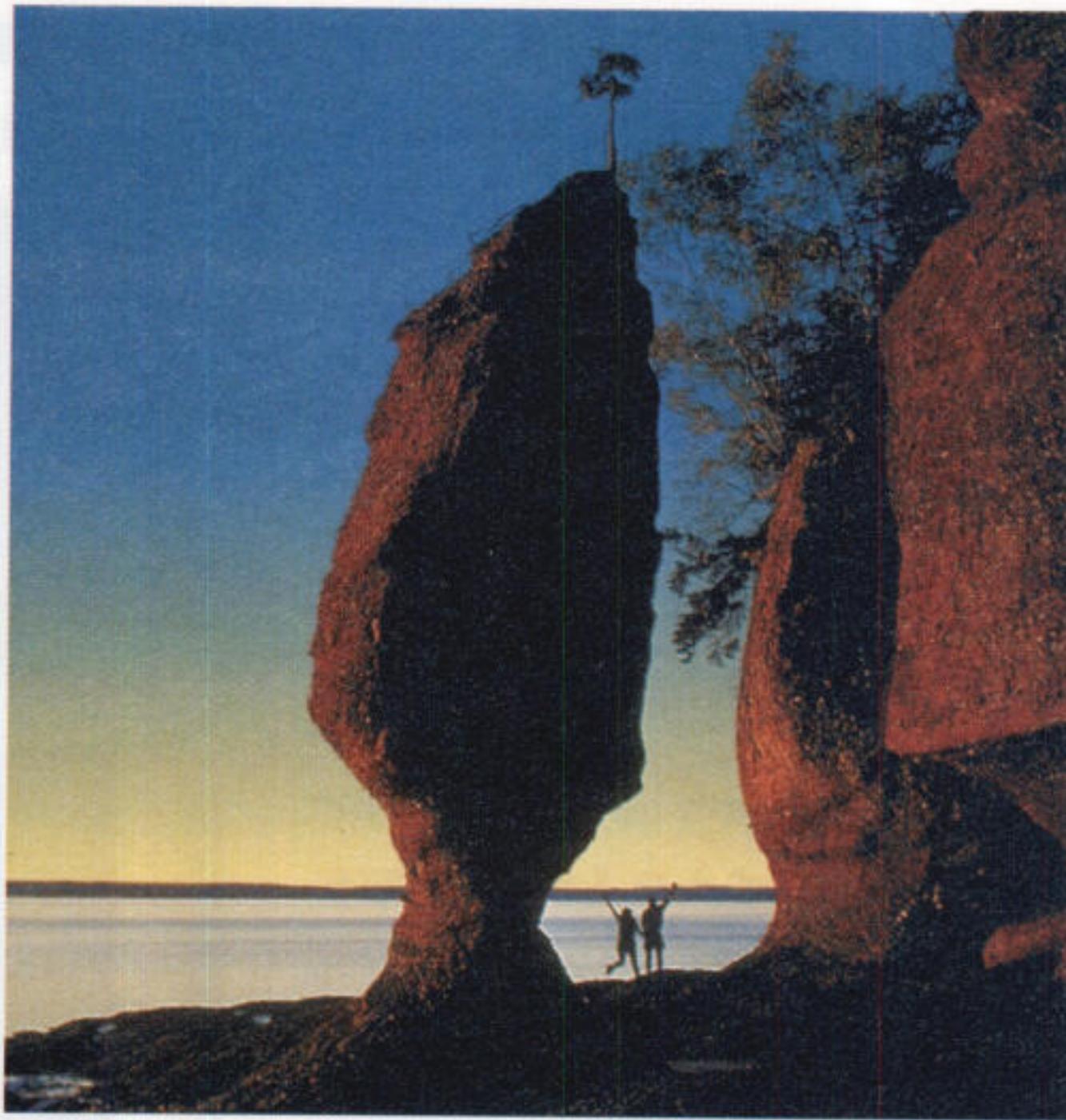
The major bodies of water that influence Atlantic Canada are the Atlantic Ocean and the Gulf of St. Lawrence. A **gulf** can be defined as a very large area of the sea that is partially enclosed by the land. There are, however, a variety of other smaller features. During the last ice age, the Atlantic region, along with much of North America, was covered by a large ice sheet. The weight of the ice "pressed" down coastal areas, and river valleys were flooded by the sea once the ice sheet melted. Much of the eastern edge of Atlantic Canada, along the Atlantic Ocean, became a "drowned coastline" — very irregular, broken with deep bays, and dotted with offshore islands. A **bay** can be defined as a partially enclosed body of water that has an opening to the sea.



**Figure 2.12** Topographic map of coastal area, Wesleyville, Newfoundland. Which water forms can you identify?

As ocean waves pound the coast, they act as powerful agents of erosion. Where coastal rock is weak, particles and even boulders are broken off. Wave action causes these materials to grind away at remaining rock until both are reduced to rounded rocks, pebbles, and gravel. This material is then deposited to form new features such as sand bars, bay beaches, and sea caves.

**Figure 2.13** Sea stacks at Hopewell Cape, New Brunswick. Waves and the action of the large tides of the Bay of Fundy erode pieces of rock along fault lines in the headlands, to form arches. With continued erosion, the roof of an arch will collapse into the sea, leaving a pillar of rock known as a stack.



## EXPLORATIONS

### REVIEWING THE IDEAS

1. a) Identify the following terms in the text.
  - i) pond; lake
  - ii) bay; gulf
  - iii) fen; bog**b)** Make Venn diagrams to show the similarities and differences for each of the pairs of terms.

### APPLYING YOUR SKILLS

2. a) In Figure 2.12, identify a wetland area.  
b) Give its absolute and relative location.
3. a) Which term is used in Figure 2.12 to refer to an enclosed body of water?  
b) If you were living in Wesleyville, what directions would you give someone to help them get to this inland water feature?
4. a) Refer to Figures 2.12 and 2.17. What evidence is there that this area is a submerged coast?  
b) Identify some of the positive effects of a submerged coastline on tourism, industry, and leisure activities in Atlantic Canada.

5. Refer to the definition of "bay" on page 27.
  - a) In Figure 2.12, which two terms are used instead of "bay" to refer to a partially enclosed body of water?
  - b) How would the body of water referred to by these terms compare in size with that of a bay?
6. Refer to Figure 2.12.
  - a) Identify a strait.
  - b) Write a definition for this term.

### CONNECTING AND EXTENDING

7. a) Choose three tourist destinations in the Atlantic provinces. Investigate the land and water forms in each one. Explain how land and water forms have contributed to the popularity of this destination.  
b) Compare your findings with those of other students who have studied other locations. What can you conclude about the diversity of landforms in the Atlantic provinces?  
c) If you were planning a vacation in the Atlantic provinces, which destination would you choose? Why?

# PEOPLE IN THEIR ENVIRONMENT

Often the character of a region grows from the ways in which people interact with their natural environment. Just by examining a map, for example, you would expect that the lives of many Atlantic Canadians are influenced by the ocean. The items that follow give some examples of the close relationship between the natural environment and the people of Atlantic Canada.

## In Legend and Spiritual Beliefs

### THE GLOOSCAP LEGENDS

In the legends of the Mi'kmaq and Maliseet First Nations of Atlantic Canada, Glooscap is a powerful figure, sent by the Great Spirit to teach, protect, and guide their people.

One of Glooscap's enemies was Beaver (the ancestor of all beavers in the world today). While hunting on Cape Breton Island, Glooscap picked up Beaver's trail and followed it all the way to the Minas Basin. Glooscap found that Beaver had constructed a dam from Cape Split to Parrsboro which flooded Glooscap's herb garden at Advocate Harbour. Glooscap used his paddle to destroy the dam and expose Beaver. Then he threw stones and lumps of mud at his enemy. These landed in the water and formed what is known today as Five Islands.

At the end of his days, Glooscap gathered his people at Cape Blomidon for a feast. He told them how to live a good life. Then he, with his grandmother and his dogs, got into his stone canoe and paddled into the darkness. At the mouth of the Bay of Fundy, he turned his dogs into stone. They formed the rocky islands, The Wolves, to guard the Bay of Fundy until Glooscap would return to his people.

*Source: Adapted from Stanley T. Spicer, *Glooscap Legends* (Hantsport, NS: Lancelot Press), 1989.*

**Figure 2.16** The annual round of traditional activities at Makkovik, Labrador. What patterns of activity can you find in this diagram?

## In Earning a Living



**Figure 2.14** The St. John River Valley supports many human activities, including farming, salmon hatcheries, and the pulp and paper mill at Nackawic, shown here.



**Figure 2.15** Cycling at Rocky Point, Prince Edward Island. How does the landscape of the Island contribute to its economy?

Annual Activities at Makkovik	J	F	M	A	M	J	J	A	S	O	N	D
Knitting, mending nets												
Hunting caribou												
Hunting partridge												
Trapping												
Hauling water												
Cutting logs, hauling to water's edge												
Repairing boats, motors, oars												
Hauling logs home at break-up												
Netting harp seals												
Repairing fishing premises												
Shooting migratory birds												
Collecting birds' eggs												
Preparing nets												
Fishing salmon												
Shooting bay seals												
Fishing, curing cod												
Netting capelin												
Picking bakeapples												
Picking redberries												

*Source: C. Bloomfield, A Case Study of the Andersen Family, p. 6, in T. Borlase, *The Labrador Settlers, Métis and Kablunângajuit* (Labrador East Integrated School Board), 1994.*

## In Making Global Connections

### Charting a new course to prosperity

A MAJOR INTERNATIONAL initiative to develop stronger trading links among Atlantic Rim countries is under way. ...

Trading links with the United States and Europe are certainly nothing new, but there are always new and better ways to do business. Halifax's location as a port at the edge of the Great Circle Route — and one of the closest ports to Europe — makes involvement in a for-

mal Atlantic Rim Network simply a matter of common sense.

Halifax has one of the world's best natural deep-water ports and is free of ice year-round. As the worldwide trend toward construction of super-ships with deeper keels continues, Halifax's advantage becomes even clearer over ports such as New York, where expensive dredging is required to keep shipping lanes open.

Source: *The Chronicle Herald*, November 22, 1993, p. C1.

### In Art



**Figure 2.17** "Wesleyville: Night Passage Bennet's High Island" by Newfoundland artist David Blackwood. Find this island in the topographic map in Figure 2.12. What impression of the physical environment does this painting give?

### The St. John River Society

Although the St. John River runs primarily through New Brunswick, its source is in Maine, USA, and part of its watershed lies in the province of Quebec. In 1992, The St. John River Society was formed to celebrate life along the St. John and its tributaries. The society promotes activities that express appreciation of the natural and cultural heritage of the river.

The St. John River Society has regularly proclaimed the fact that the river forms a cultural, economic, and physical link among thousands of people living in Maine, Quebec and New Brunswick. It should be seen as a great unifying symbol, and life along the St. John should be considered an uncommon but shared experience.

Source: *The St. John River Society, The River*, Winter 1995–96, p. 1.

# EXPLORATIONS

## REVIEWING THE IDEAS

- What do you think is meant by the "Atlantic Rim"?
  - Use an atlas and an outline map of the world to identify other ports that are part of the Atlantic Rim. What do you think is meant by the "Great Circle Route"?

## APPLYING YOUR SKILLS

- Look at Figures 2.12 and 2.17. List evidence that the physical environment has influenced where people live in the Wesleyville area.
- David Blackwood said of the Wesleyville area, "The region is very flat and barren, the dominating features are the sea and sky. In winter you feel this even more, all shades of grey and white...."

Source: William Gough, *The Art of David Blackwood* (Toronto: McGraw-Hill Ryerson), 1988.

Examine Figure 2.17. How does Blackwood present the influence of the physical environment?

- Work in a small group.
  - Make a web diagram to show ways in which Atlantic Canadians are influenced by the natural environment. Find examples to add to those given in the text.
  - Provide some examples to show how relationships between people and the natural environment are sometimes difficult.

## CONNECTING AND EXTENDING

- Make a chart of your family's yearly round of activities, as shown in Figure 2.16.
  - How do your family's activities today differ from traditional activities of a Makkovik family?
  - What does your chart indicate about your family's relationship with the natural environment?



## SEEING THE BIG PICTURE

Assume that the exchange student from New Zealand has chosen to study at your school. She is scheduled to leave Auckland, New Zealand, on July 15 at 9:00 p.m. She will fly via Los Angeles and Toronto. Here are the details of her journey.

Journey	Flying time	Wait for next connection
Auckland to Los Angeles	13.5 hours	4 hours
Los Angeles to Toronto	5 hours	2 hours
Flying time from Toronto to local airport (research required)		
<b>1.</b> Referring to atlas information, draw up the schedule of her journey. Include: <ol style="list-style-type: none"><li>the physical distance of her journey</li><li>the time of arrival <b>in local time</b> at each of her destinations, including the major airport</li></ol>		

nearest to your community. You will need to consult a world time zone map to calculate local times. Note the effect of the international date line.

- Use a relief map of New Zealand to compare the area around Auckland with the natural environment around your community. What similarities and differences can you find?
- Make the postcard the student will send to her family to give an impression of the natural environment in your area. Use clippings from tourist brochures, take a photograph of a representative location, or make a painting or drawing. If you use a clipping, paste it on to a piece of card. Write a caption for the picture in one corner on the back.
  - As the New Zealand student, write the postcard, giving your impressions. You may wish to mention similarities to or differences from New Zealand.