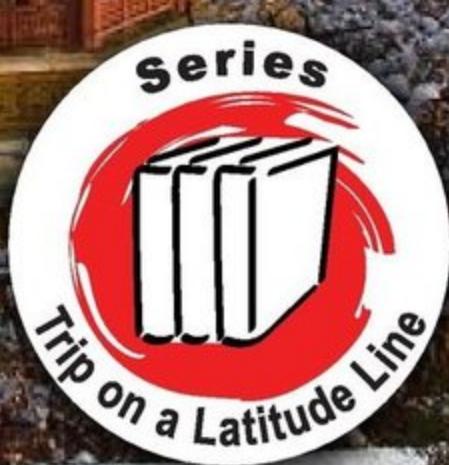


LEVELED Book • R

Expedition 40: The Secret of the Seasons



Written by Celeste Fraser

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Fishing boats on the Rio Valdivia in Chile

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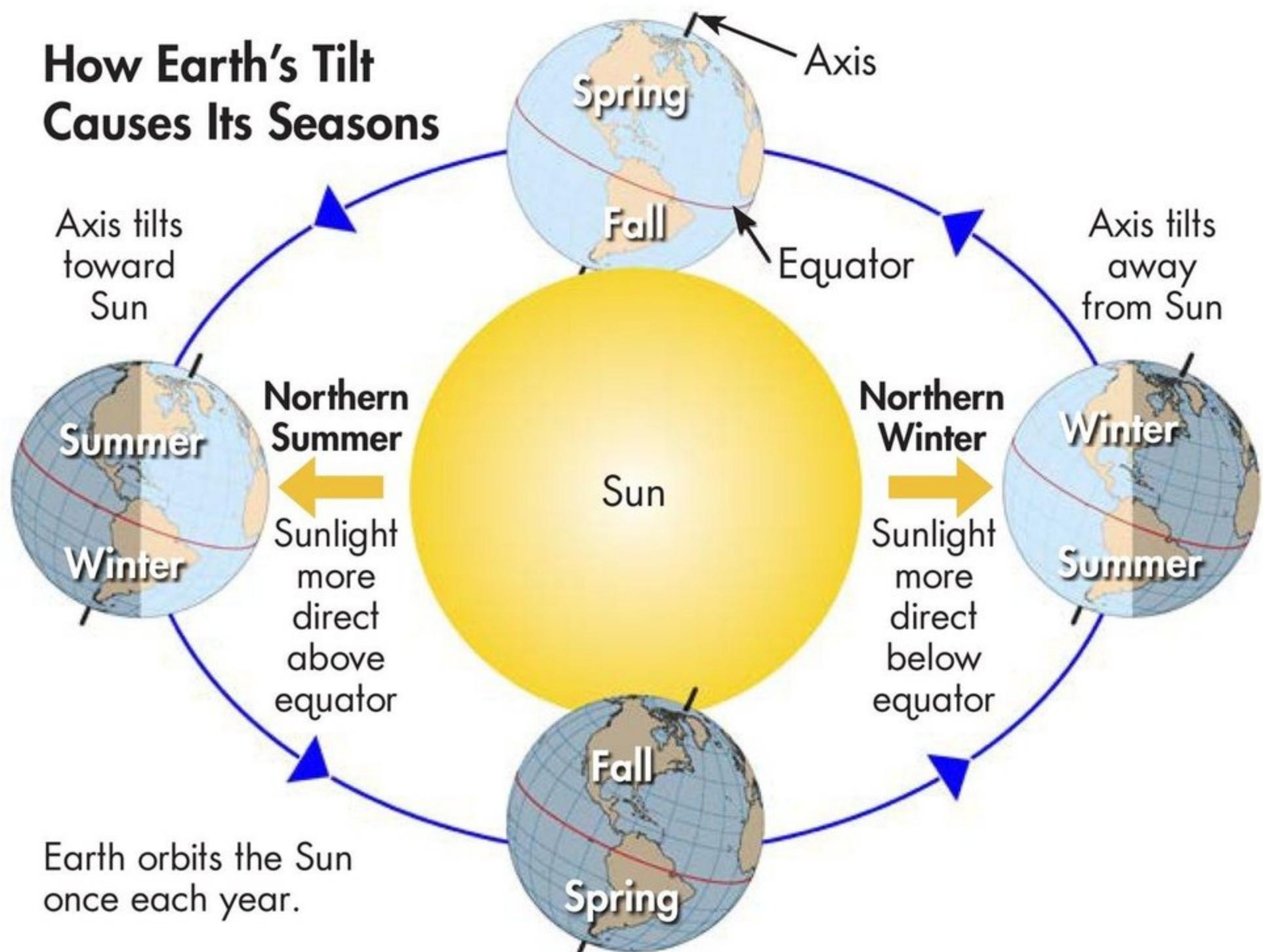
The seasons at 40 degrees north and south latitude are opposite of each other at any given time of year. Can you find where the labeled locations are mentioned in this book?

Packing for 40 Degrees Latitude

On this expedition, you will make two trips around the world, one at 40 degrees north latitude and one at 40 degrees south latitude. You are going to be traveling in January. Packing will be difficult because your trip will take you to two different seasons. You're going to need both summer and winter clothes for this trip.



How Earth's Tilt Causes Its Seasons



Opposite Seasons

Earth is tilted in space, and its tilt causes the seasons. As Earth orbits the Sun throughout the year, the tilt does not change. Because of this tilt, different areas of our planet receive varying amounts of sunlight each day.

In January, the Northern Hemisphere is tilted away from the Sun, causing winter there. At the same time, the Southern Hemisphere is tilted toward the Sun, causing summer there. In June, the opposite is true. What season is it in Australia during June?



A girl blows snow from her hands on a cold day in New York.

New York City, United States

It's a good thing you packed a heavy coat because January is cold in New York City at 40 degrees north latitude. Temperatures are in the twenties (Fahrenheit). People are all wrapped up in heavy coats, hats, and scarves.

As you walk through the city streets, you hear many different languages and smell the **aromas** of foods from a variety of countries. For lunch, you have your choice of kebabs from Lebanon, egg rolls from China, sushi from Japan, or tacos from Mexico. Although New York is an American city, people from all over the world call it home.



Sushi and kebabs are easy to find in New York City.

You walk to Central Park and watch the ice skaters. "What's it like here in June?" you ask the man renting skates. "Oh, the weather is hot then. People ride bikes and have picnics in the park."



People enjoy ice skating in Central Park during winter.



Snow covers the Forbidden City in Beijing, China.

Beijing, China

You board your plane for the long flight to Beijing, the capital of China. Because Beijing is at 39 degrees north latitude, it is also very cold in January. All across Tiananmen Square, people are bundled up. Tiananmen Square is south of the Forbidden City, an ancient walled Chinese city built in the 1400s.

You decide to take a short drive out of Beijing to Longqing Gorge, the site of the Ice and Snow Festival. At the gorge, you see a winter wonderland of fireworks, light shows, and ice sculptures. The festival runs from January to March every year.



Visitors enjoy the incredible ice sculptures at Longqing Gorge.



Snow covers the steps of the Great Wall of China.

No visit to Beijing would be complete without seeing the Great Wall of China. The Great Wall was first constructed about 2,000 years ago. It is the longest structure on Earth, built across mountains to protect against **invaders**. You ask a guide to take you to the Great Wall, but he says, “Okay, but it’s very cold, maybe snowy. Summer is better—it’s much warmer then.”



A sunny day in Madrid, Spain

Madrid, Spain

From Beijing, you travel along 40 degrees north latitude to the European city of Madrid. Madrid is the capital of Spain and Spanish culture.

You decide to take a walk down one of Madrid's main streets, the *Gran Via*, to see its famous buildings. It's a sunny day in January, and many people are outdoors. You decide to sit down at an outdoor cafe. You order several *tapas*—bite-sized foods such as bacon-wrapped dates or chicken with leeks. You shed your coat and think, *What a nice way to spend a winter day!*

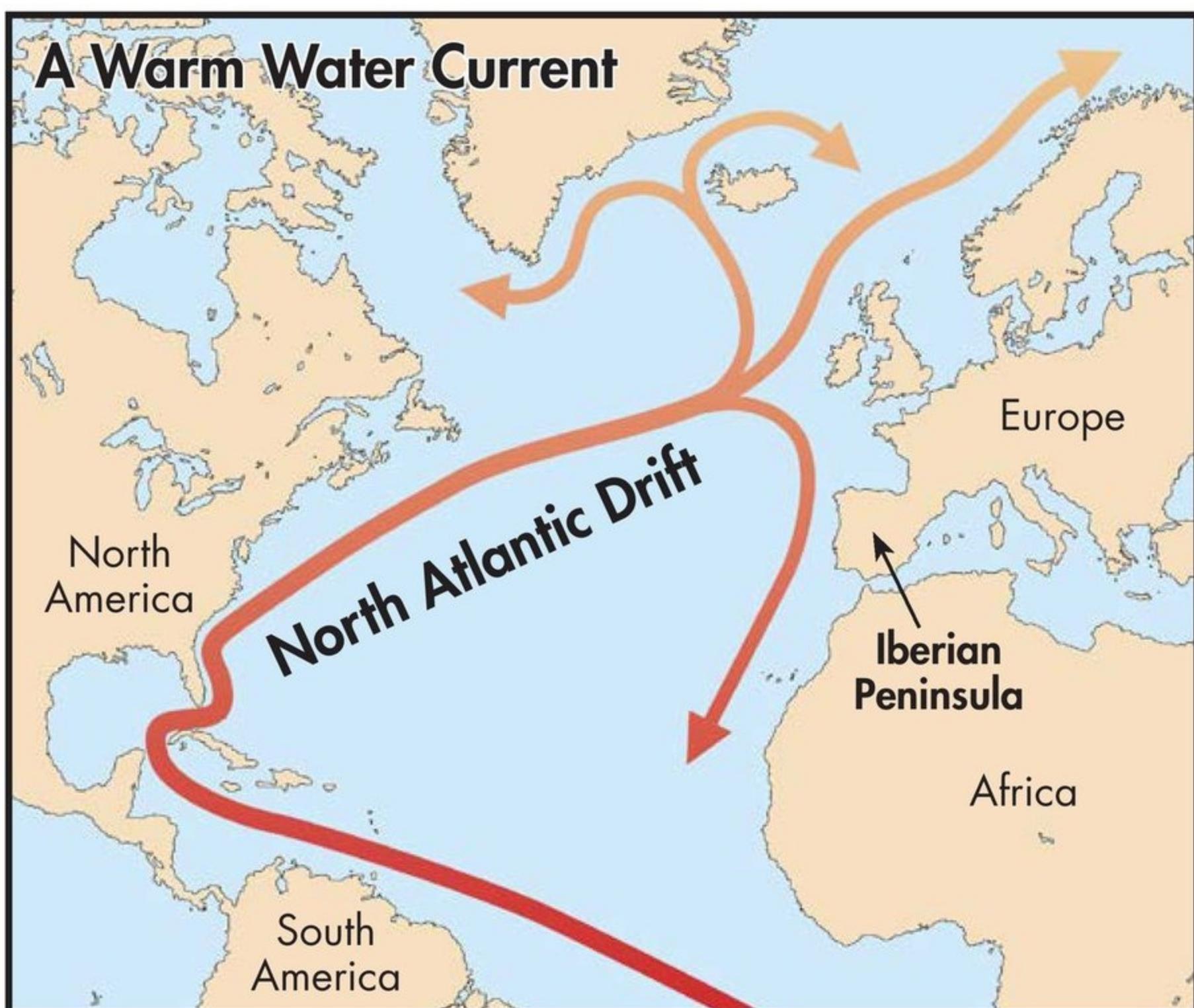
You realize that Madrid is not as cold as New York City or Beijing. In winter, temperatures are in the 40s and 50s (Fahrenheit). Snow is rare. Sometimes, it is even warm enough to sit outdoors!



People sit outside on a warm winter day to enjoy tapas and other foods at a plaza in Madrid, Spain.

Currents and Peninsulas

One cause of the warmer winter season is the North Atlantic Drift, an ocean **current** that brings warm air to Western Europe. This current makes Western Europe's climates warmer than they would normally be at latitudes of 40 or 50 degrees. The other cause of Madrid's warmer weather is its location on the **Iberian Peninsula**. A peninsula is a piece of land that is bordered by water on three sides. Large bodies of water make climates milder, which causes winters in Madrid to be cool, but not too cold.





Wellington Harbor is warm and sunny in January.

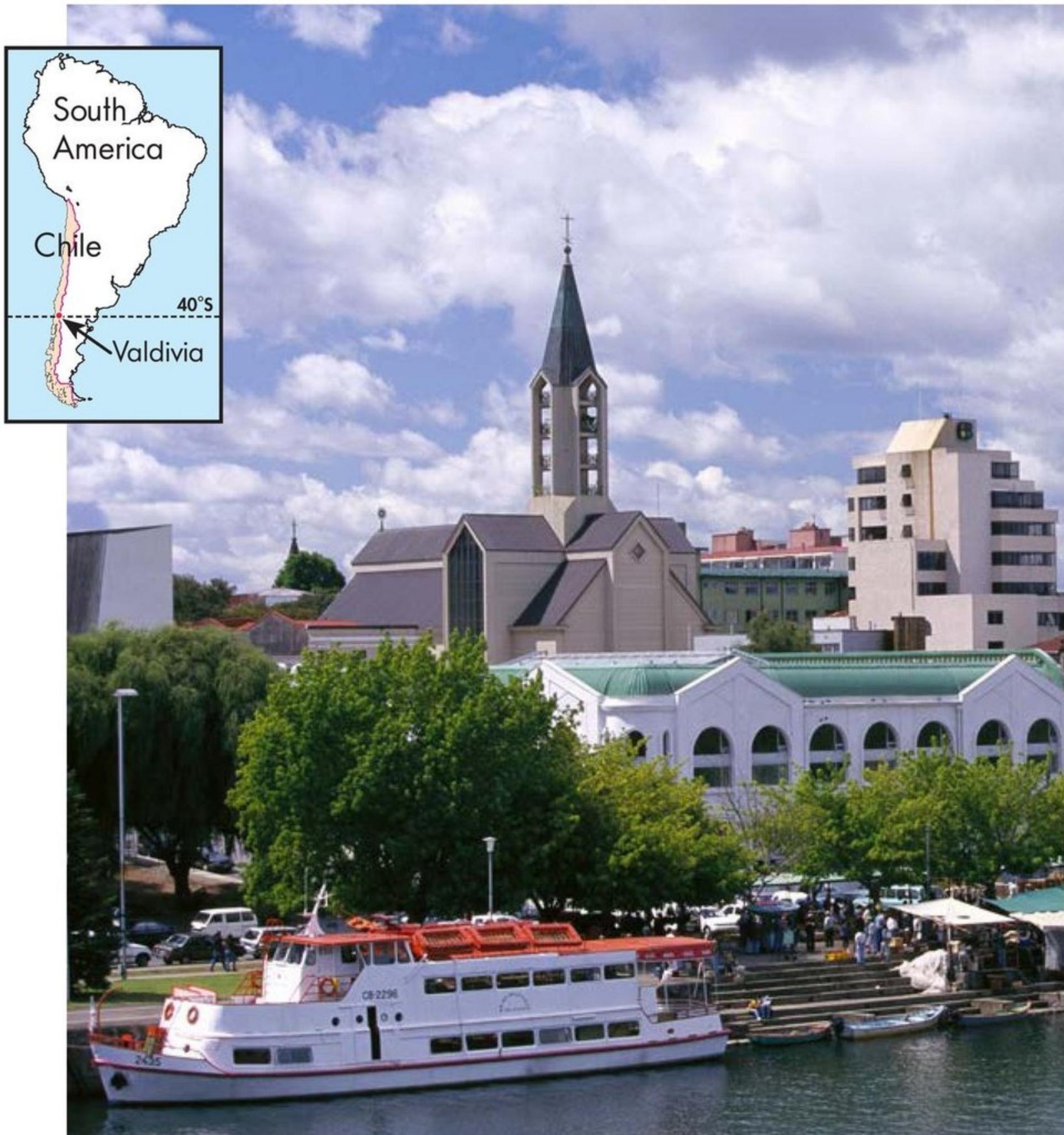
Wellington, New Zealand

Now it's time to feel the January weather at 41 degrees south latitude. Wellington, New Zealand, is the world's southernmost capital city. Wellington is located on Cook's **Strait**, a narrow **channel** of water that separates the two main islands of New Zealand. The summer air is around 75 degrees (Fahrenheit).

You ride the cable car up to the hills high above the city to take in the view. The harbor is full of ships, and the beaches are crowded with people. Going to the beach would be a good way to spend this January day.



Wellington's cable cars give visitors great views of the city.



A riverboat docked in Valdivia, Chile

Valdivia, Chile

Next stop in the Southern Hemisphere is Valdivia, Chile, at 39 degrees south latitude. Valdivia sits at the mouth of three rivers that flow into the Pacific Ocean. You decide to take a riverboat cruise to see the remains of the Spanish forts that were built in the 1500s.

Just as you board the boat, you see 2,000-pound sea lions flopping down the street. The sea lions are headed for lunch at the fish market on the river. Others are sunning themselves on rafts in the river, waiting for leftovers.



A fisherman feeds a sea lion in Valdivia. Sea lions have become one of the city's most popular attractions for tourists.



Kayakers enjoy the summer weather in New Zealand.

The Secret of the Seasons

Touring 40 degrees north and south latitudes in January, you saw firsthand how the season depends not just on the time of year, but also on where you are. During the same week in January, you felt the cold of winter in the Northern Hemisphere and the warmth of summer in the Southern Hemisphere. You learned how the Northern Hemisphere tilts away from the Sun in January, while the Southern Hemisphere tilts toward it. Now that you know the secret of the seasons, where would you rather spend your January?

Glossary

aromas (<i>n.</i>)	pleasant smells that are very noticeable (p. 7)
channel (<i>n.</i>)	a wide passage of water that connects two larger bodies of water (p. 15)
culture (<i>n.</i>)	the ideas and customs of a certain group of people (p. 12)
current (<i>n.</i>)	air or water that flows in a certain direction (p. 14)
gorge (<i>n.</i>)	a long, deep valley surrounded by higher land (p. 10)
hemisphere (<i>n.</i>)	half of the Earth, divided north and south by the equator or east and west through the poles (p. 5)
invaders (<i>n.</i>)	people who aggressively enter a country to conquer, weaken, or injure its people (p. 11)
peninsula (<i>n.</i>)	a long piece of land almost completely surrounded by water (p. 14)
strait (<i>n.</i>)	a narrow passage of water connecting two large areas of water (p. 15)

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Front cover: Ancient palace in Beijing, China

Back cover: Metro entrance in Madrid, Spain

Title page: Coin-operated binoculars stand covered in snow with New York's Brooklyn Bridge in the background.

Teacher's note: This book is part of the Trip on a Latitude Line series of books on geography and exploration.

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