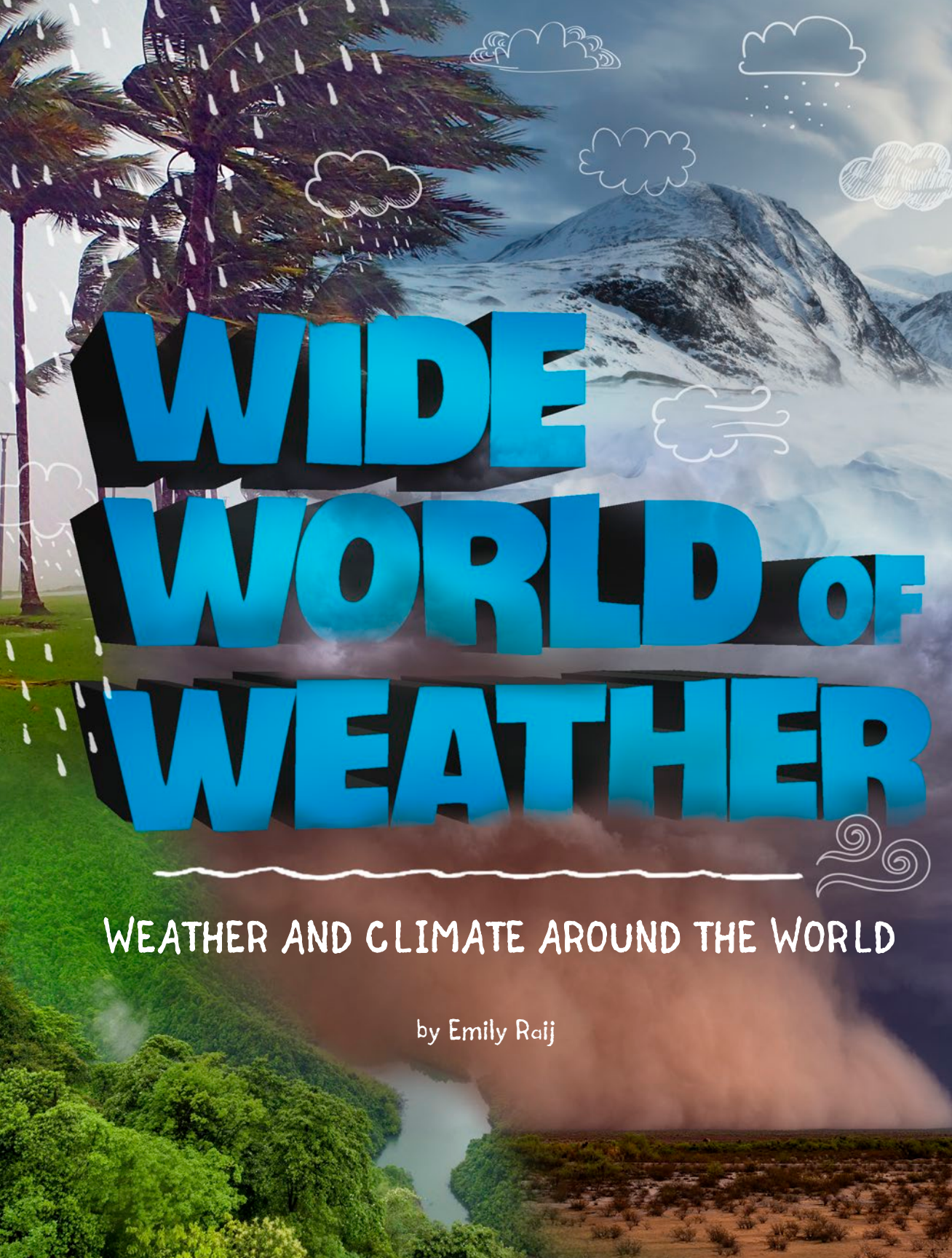




WIDE WORLD of WEATHER

WEATHER AND CLIMATE AROUND THE WORLD

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CHAPTER 1

WEATHER AND CLIMATE

Whoosh! Wind is howling outside. Snow is falling fast. It's a cold winter night in New York City. No one wants to go outside. Across the world in the country of Australia, it's a different story. The sun is shining. Temperatures are rising. Beaches are full of people. How can the weather be so different on the same planet and at the same time?



People gather on sandy beaches during summer on Australia's coasts.

Weather is what's happening in the **atmosphere** from day to day. Wind and temperature are weather conditions that can change all the time.

Climate is the average weather conditions over a very long period of time. There are many factors affecting climate. The way those factors affect climate is different in each region, or part, of the world. That's why each region has its own climate.



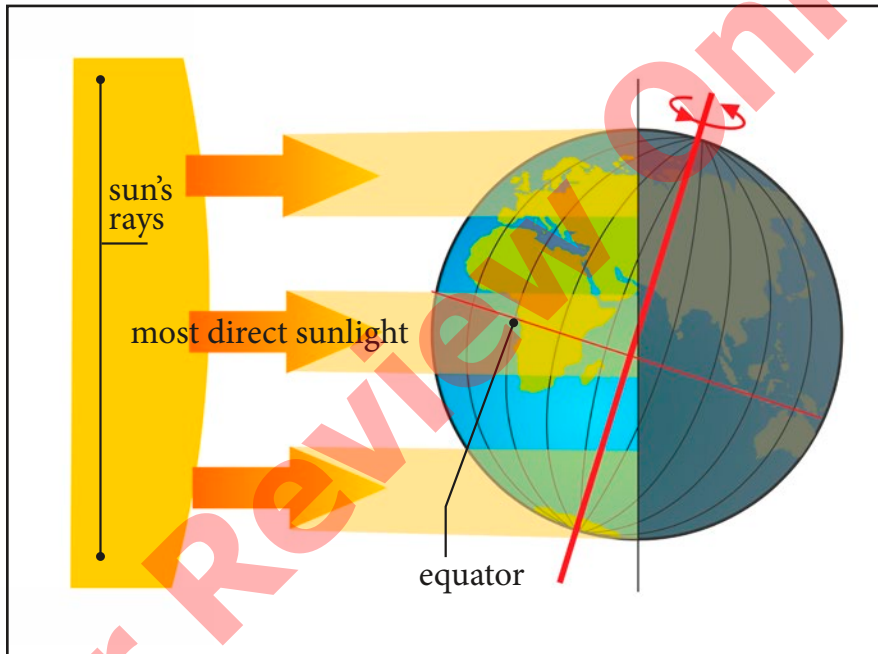
Snow piles up during a blizzard in New York City.

Many things affect the climate of a place. How close an area is to a large body of water is one factor. Ocean and wind **currents**, or movements, also affect climate. The features of the land and the height of land above sea level are two more factors.

One of the biggest effects on a location's climate is its **latitude**. That is an area's distance from the **equator**. The equator is a made-up line that divides Earth into northern and southern halves.

Earth's **axis** is always tilting the same way. This causes the sun to shine more or less on different areas at different times. That is how we get seasons as Earth moves around the sun.

Since Earth's axis is tilted, locations closer to the equator get more direct sunlight throughout the year. These places are called the tropics. They have warmer climates than places farther from the equator.



During the day, areas along the equator receive more direct sunlight. This is because the areas are closer to the sun than the northern and southern parts of Earth.

CHAPTER 2

DIFFERENT CLIMATE TYPES

A climate is based on temperature, how much and when **precipitation** happens, and what grows in the area. Main climate types are desert, tropical, temperate, and polar.

DESERT CLIMATE

Desert climates are dry. They get fewer than 10 inches (25 centimeters) of precipitation all year. The air in a desert holds less moisture than in wetter climates. Desert air has less water. There is not enough water to contain the day's heat. That means nights are cold. The big change in temperature from day to night makes it hard to live in desert climates.

FACT

The driest spot outside of Antarctica is the Atacama Desert in northern Chile. A city there went without water for 400 years!



Many deserts get very hot. Some deserts can reach 122 degrees Fahrenheit (50 degrees Celsius). But not all deserts are hot. Antarctica is a desert. It is the coldest place on Earth. But it doesn't rain or snow much. Antarctica has the coldest, windiest, and driest climate in the world.



The icy Antarctic desert