

ALL YE LANDS

Origins of World Cultures

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Chapter 1 Introduction to Geography

God's Creation, God's Gift

When you read a story, do you ever try to imagine yourself at the side of the main character, in the places the story describes? Have you ever, for instance, pictured yourself floating on a raft down the Mississippi with Huckleberry Finn? Hiding with Robin Hood in Sherwood Forest? Climbing the snow-covered Alps with Heidi? Walking the foggy London streets with Sherlock Holmes? A good writer can often make you see these places with your imagination, even though you have never seen them with your eyes. And in seeing these places in your mind, you enjoy the story more.

What about the stories of history? When you listen to the story of the Israelites crossing the Red Sea in their exodus from Egypt, do you wonder how wide this sea was and where they crossed? Do you wonder why the Promised Land was called the “land of milk and honey” in the Bible when it seems so barren and sandy now? Do you ask where the Rubicon is that Julius Caesar crossed to become ruler of Rome? Do you picture with your mind’s eye the battlefield at Gettysburg where Robert E. Lee and the Southern cause went down in defeat?

An enhanced photo of Earth taken from space in 1972 by the *Apollo 17* astronauts during their mission to the moon



The physical features of a place (its terrain, landscape, mountains, rivers, seas) often shape how a people lives — such as whether it will be nomadic, wandering from place to place like the Indians of the plains, or whether its people will become merchants, buying and selling on the Mediterranean Sea. And how a people lives shapes history.

So it is that knowing more about the physical places where history was made can deepen your understanding of history. It can also help you enjoy the studying of history more.

All these physical places where history has occurred make up our remarkable planet called Earth, created by God to be our first home on the journey to heaven. The planet Earth is ours to enjoy and share. Its different environments range from the **fertile** farmlands of central Europe to the volcanic islands of Japan, from the ice-covered poles to the hot and humid tropics. It is a gift we are to take care of, enjoy, improve, and pass on to future generations.

fertile: producing crops easily

Earth Writing

The study of Earth — including its land and landforms, rivers and seas, and the people that have carved out homes in its various regions — is called *geography*. This word comes from Greek: *geo* for “Earth,” and *graph* for “writing.” Geography is thus a “writing about” or description of the Earth. By learning how to read this “earth writing,” by learning how to describe the world you live in, you will make better sense of the stories in this book and other books. People and events will fill your imagination. When you read, you will travel; and when you travel, you will read, seeing the past in a landscape that does not change much over time.

Reading Maps

People have always had uses for geography, especially those useful tools of geography called maps. Maps are drawings (usually flat) of the world or certain places on it. In one form or another, maps have existed since the earliest civilizations, for people have always been eager to describe where they are or what belongs to them or to someone else. Travelers, for instance, may want to know how far they have gone on a journey, or where they are in relation to a certain river, mountain, or town. An



Map of the islands of Japan, showing latitude and longitude lines, and a color-keyed elevation scale

owner of property or the king of a nation may want something to show the boundaries of his property or his kingdom. A student of history will want to know not only *what* happened during a certain time period, but *where* it happened as well. For these, and other purposes, maps are very useful tools.

Depending on what their purpose is, maps show us different things. Some may just indicate the physical characteristics of a place (mountains, valleys, rivers, lakes, etc.)—what we call **physical geography**. Others may show the location of cities, towns, and indicate boundaries between nations and states—that is, they show **political geography**. Most maps show both physical and political geography, for they are very much connected with one another. Nations, for instance, have often used rivers or mountain ranges to mark their political boundaries, and the junctions of rivers have served as the sites for the building of towns and cities.

physical geography:

a description of the formations of the Earth (mountains, valleys, rivers, lakes, etc.)

political geography:

a description of the boundaries of states and regions, the location of cities and towns, and other aspects of human society that have to do with geography

Mercator Projection—A map showing the meridians parallel to each other and the lines of latitude spaced farther apart as their distance from the Equator increases. This kind of map is especially useful for sea navigation.



Robinson Projection—A map showing shapes and areas more accurately than other maps. The poles are shown as lines, not points. Lines of latitude are straight, and meridians are curved and get closer as they approach the poles.

Maps come in two forms — globes and flat maps. Globes are maps of the entire Earth, showing the continents, islands, oceans, and other features just as they would appear to us if we could see Earth in space. Flat maps show parts of Earth, or the entire earth, but in a way that it does not look like they belong to a sphere.

Flat maps, especially of the entire earth, do not show the various features of Earth as accurately as globes. On a flat map, for instance, Greenland may appear larger than Africa, when it is actually quite smaller. This is a problem with transferring the rounded surface of the globe to a flat surface. To do so, one must make the areas at the top of the map appear larger than they are. Such a flat map is called a *Mercator Projection*, after its inventor, Gerardus Mercator (1589). Today, some maps try to correct this problem by drawing Earth in a rounded shape and depicting the poles as lines, not points. Such a map is called a *Robinson Projection*.

A book of maps is called an *atlas*, a name that comes from ancient Greek mythology, which tells of a giant named Atlas who held up the sky. Early mapmakers liked to draw Atlas underneath a map of the world that he appeared to carry on his shoulders.

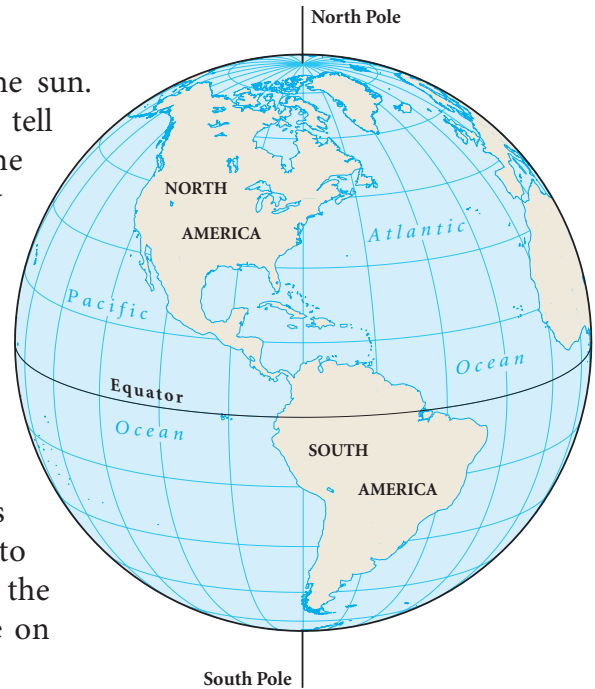
You will often hear someone speak of “reading” maps. People speak this way, because maps have their own “language.” Maps use symbols that, just like words, convey ideas to those who “read” them. These symbols are the *compass rose*, the *legend* or *key*, *scale*, *direction*, and *latitude* and *longitude* lines. We will now describe each of these symbols in turn.

The Geographical Directions

Earth is a sphere that spins as it moves around the sun. Of course, that is not what our immediate senses tell us, but what scientists have discovered over the last several centuries. The Greeks, and possibly the Egyptians, knew Earth was a sphere, but they thought it stood still and the heavenly bodies moved around it. They did not think Earth moved around the sun.

The imaginary line that passes through Earth around which Earth spins is called Earth's **axis**. The ends of the axis are called poles—the North Pole and the South Pole. As Earth spins, the sun's light (day) moves over half the earth. It appears to us that the sun “rises” in the morning and “sets” in the evening. What really happens is that where we are on Earth has moved into the sun's light or out of it as Earth spins.

We give directions based on where the sun rises, where it sets, and on the North and South Poles. The direction where the sun rises is called “east,” while the direction where the sun sets is called “west.” It has become the custom to draw our maps with the north at the top (the North Pole) and the east on the right.



Globe showing the North and South Poles

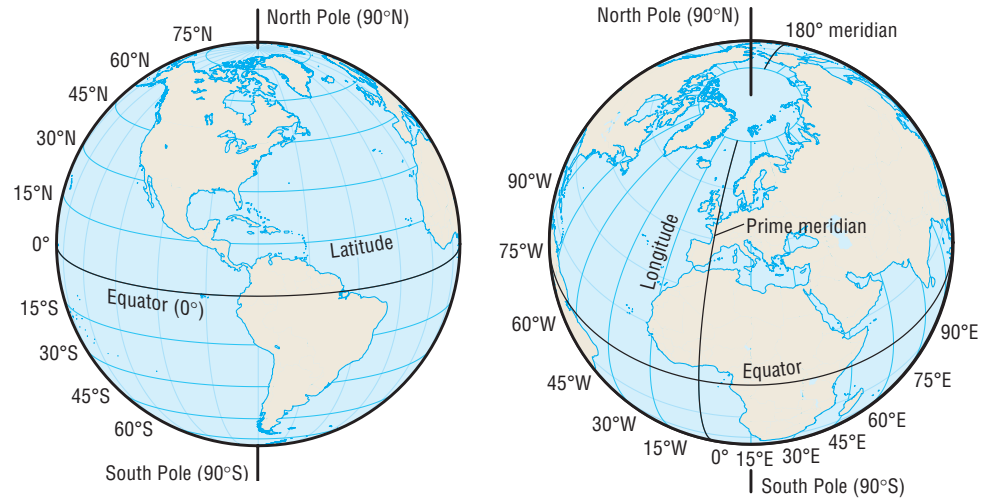
Latitude and Longitude

Latitude and **longitude** are the imaginary lines used by mapmakers to show places on a map, or by sailors and other travelers to learn where they are on the earth. (Longitude lines are called **meridians**.) These imaginary lines crisscross the globe. Latitude lines run from east to west, while longitude lines run from north to south. The crisscrossing of latitude and longitude lines is the chief way of showing a location on the map.

The latitude line that circles the center of the globe is the **equator**. It runs halfway between the north and south poles. All other latitude lines are parallel to the equator. We number latitude lines in degrees based on how far they are from the equator and how close they are to one of the poles. The equator we say is zero degrees latitude, and the North Pole,

axis: the line around which a body rotates
latitude: an imaginary line used by mapmakers to indicate a distance north or south of the equator
longitude: an imaginary line used by mapmakers to indicate a distance east or west of the prime meridian
meridian: a longitude line
equator: an imaginary circle equally distant from the two poles, around the middle of the earth

Latitude and longitude lines, as seen on a globe



90 degrees (90°) north latitude. Since the South Pole is the same distance from the equator as the North Pole, but on the opposite side of the earth, it is 90 (90°) degrees south latitude. A latitude line lying between the equator and one of the poles will have a number somewhere between zero and 90 degrees. For instance, the line that runs through Beijing, in China, and Philadelphia, in the United States, is 40° north latitude. The line that runs through Sydney, Australia, is 34° south latitude. If regions have the same latitude, their climates might be the same.

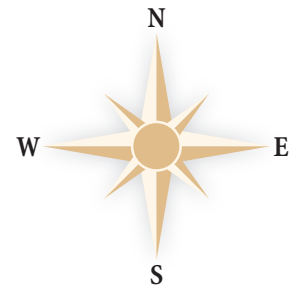
prime meridian: the only great circle of Earth that passes through both poles and the Royal Observatory in Greenwich, England. All other meridians are numbered from this meridian, which is the 0° (degree) meridian.

We also measure longitude in degrees; but, instead of the equator, we use a line called the **prime meridian** as our longitude line or meridian of 0°. The prime meridian runs from the North to the South Pole and passes through Greenwich, England. Really, any longitude line could be used as the prime meridian, but in 1884, 25 nations agreed to make the Greenwich meridian the prime meridian. The meridian that runs near Rome, Italy, (west of the prime meridian) is 12° west longitude. The meridian that runs through New York City (east of the prime meridian) is 74° east longitude.

If you started at the prime meridian and traveled westward around the world, you would cross meridians that increase in number. That is, you would go from 0° meridian, through the meridians numbering 10°, 50°, 100°, etc. When you reached 180° meridian (which passes through the Pacific Ocean), you would begin to pass through meridians that decreased in number. That is, you would go from 180° to 150°, 100°, 50°, and 10° meridian. Eventually you would arrive back at the prime meridian.

Map Directions

Most maps are so drawn that north is at the top of the map as you look at it, south at the bottom, west to the left, and east to the right. Some maps, however, may place a different direction than north at the top, so it is important to find on the map what is called the *compass rose*—a small circular symbol that looks like a sun with four long rays shaped like a cross. Each ray will point to a direction, indicated by the letters N (north), S (south), E (east), or W (west). Wherever the N ray points is north for that map.



Legend or Key

Because a map is a small picture of a large area, it can include symbols to represent geographical places or features. These symbols will often be found on the map in a small box called a legend or key. A blackened triangle may stand for a mountain and a crooked line for a river or boundary. A dot is usually a city; the larger the dot, the larger the city it represents. A broken line or lines with arrows can show someone's travels or an army's invasion route.

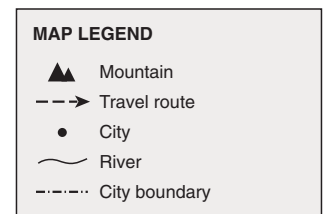


Figure A

Scale

This is a horizontal bar that can be used to show distances on maps. The scale on a map will appear as a straight line, marked by smaller cross lines that indicate various distances. The scale shown in Figure B indicates a distance of 100 miles, along with distances (25, 50, 75 miles) between zero and 100 miles.

A string can be used with the scale to figure out distances between places on a map. If, for instance, you want to discover the distance between San Francisco and Los Angeles, California, you would place one end of the string, say, where San Francisco is on a map and pull out as much string as you need to reach Los Angeles. By measuring the string length with the scale, you will be able to determine the distance between the two cities.



Figure B

tectonics: geological features of Earth's crust
Earth's crust: the solid outer part of the planet

Beneath the oceans are continental plates, which come together to form the surface of the earth. This map shows the boundaries of the plates.

Our Moving Continents

About a hundred years ago, scientists of the earth's history learned something that changed the way everyone thinks about geography. They found that, like puzzle pieces, rock cliffs in South America match and fit cliffs similar to them in Africa. This discovery led scientists to suspect that all the lands of the earth were once one huge landmass above water and that, over millions of years, that landmass broke apart and its different sections drifted away from one another. This theory has thus been called "continental drift." It is also called "plate **tectonics**," because each of the great sections of Earth is called a *plate*. A plate is an enormous, movable piece of **Earth's crust**.



According to scientists, about 120 million years ago, the earth's great landmass began to break up into plates. Some of these plates were already beneath the waters of the oceans; others tipped, throwing up one part of the plate and lowering the other part into the waves. The parts of the plates above the water became continents. A continent is a part of a continental plate that is above water.

Over millions of years, the continental plates have moved apart and been driven against each other. Great mountain ranges rose up when the plates moved against each other; and where they moved apart, ocean waters flowed in to make new bodies of water. In the short history of humankind on Earth, the continents have been just about the same as they are now. They are moving, but so slowly that we cannot detect it. Only measurements at one or two known plate edges give evidence that the theory of continental drift is true.

The Seven Continents and Other Landmasses

The movement of the earth's plates has left three different kinds of landmasses standing above the waters—continents, peninsulas, and islands. The largest of these landmasses are the *continents*, which are seven in number: North America, South America, Asia, Europe, Africa, Australia, and Antarctica.

Of all the continents, Asia and Africa are the largest, while Australia and Antarctica are the smallest. On a map it looks as if Europe and Asia form one continent; but the Ural (YOO-rahl) Mountains, the Caucasus Mountains, the Black Sea and the Caspian Sea separate these two continents. The eastern end of Europe is flat and was once covered with dense forests and wide grasslands. The western end of Asia is also flat, as well as cold or desert-like. These physical boundaries prevented travel and kept the different civilizations that developed on the two continents separate.

The two Americas are connected by the bridge of Central America between the southern boundary of Mexico and the **isthmus** of Panama. Mexico and Central America are parts of North America but are semi-tropical like most of South America.

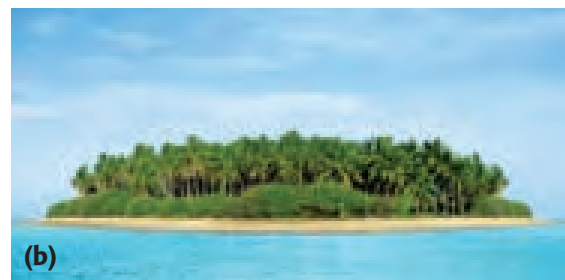
An *island* is a body of land surrounded on all sides by water. Greenland, the largest island, is a continental island. A continental island is an island separated from a continent by water but connected underwater by one

isthmus: a narrow strip of land, having water on either side, that connects two large bodies of land



Map of the world showing the continents, the oceans, and the equator

(a) An isthmus; (b) small tropical island; and (c) Kalaupapa Peninsula in Hawaii



continental plate. Some islands are the tops of mountains rising above the waters.

A *peninsula* (from Latin *paene*, meaning “almost,” and *insula*, meaning “island” — an “almost island”) is a body of land surrounded on three sides by water, but connected to a larger body of land on the fourth side. Greece and Italy are two large peninsulas jutting into the Mediterranean Sea. Spain and Portugal are on the Iberian Peninsula, surrounded by the Atlantic on the west and the Mediterranean on the south and east.

Mountains, Volcanoes, Plains, and Deserts

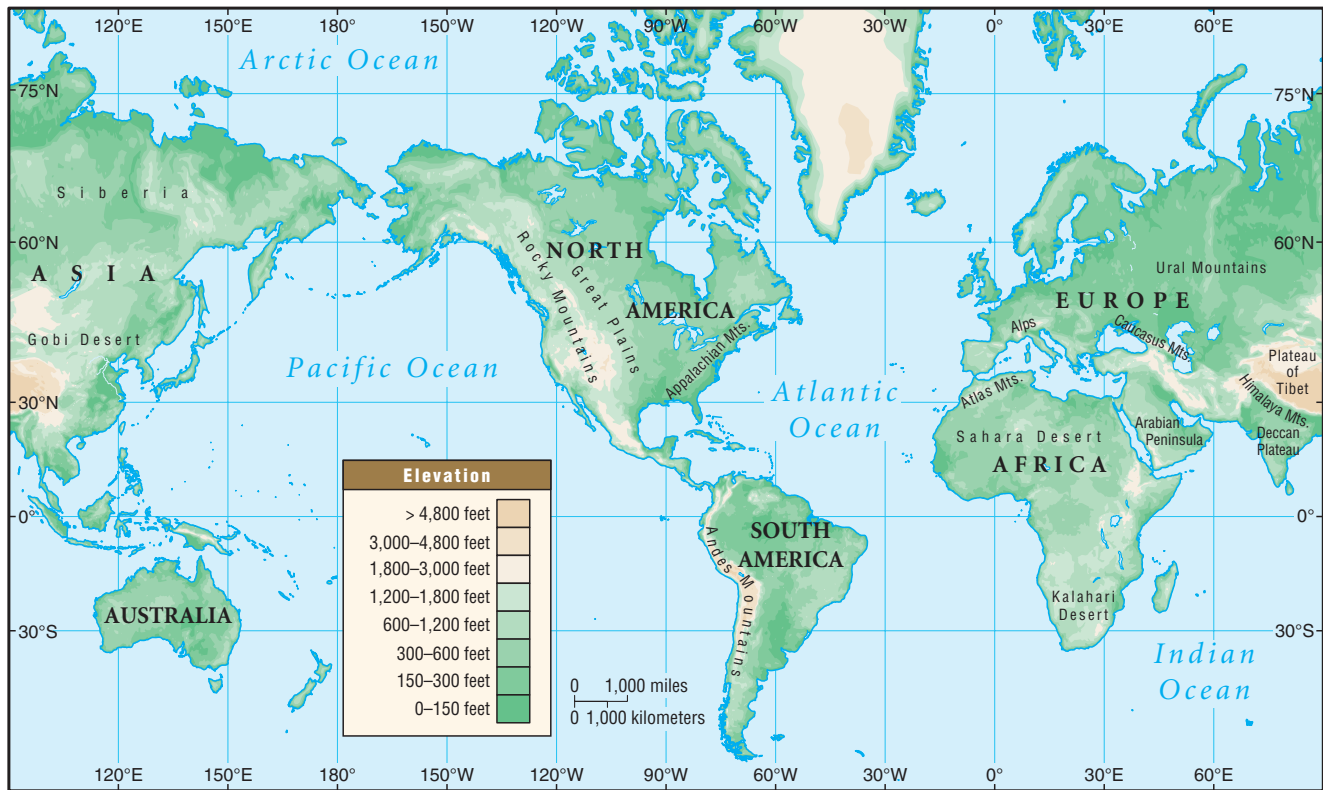
The landmasses of the earth have various features that give great variety and beauty to our world. We can roughly divide these features into mountains (including volcanoes), plains, and deserts.

Mountains are often made by plates shoving up against each other, cracking, and then reconnecting. The surface of the earth is constantly shifting. Mountain ranges have risen and fallen over the millions of years of Earth’s history.

The world’s tallest mountain is Asia’s Mt. Everest, soaring 29,000 feet high above sea level (that is more than five miles) at the border of Nepal and Tibet (which happens to be the world’s largest and highest plateau). Mt. Everest is part of the Himalayas, the world’s largest mountain system,

Mount Everest, 29,035 feet high, located in Nepal, is named after the English surveyor, Sir George Everest.





Topographical map showing mountain ranges of the world with color-keyed elevation scale

magma: molten rock material beneath the earth's surface

obsidian: dark, natural glass formed by the cooling of molten lava

with eight of the world's ten highest mountains. The higher mountain ranges are the youngest in Earth's history, though still unimaginably old by human history. As a mountain range ages, it is worn down by wind and rain and so becomes smaller.

Some mountains, called *volcanoes*, are formed by molten rock and ash erupting out of the hot **magma** beneath the earth's crust. Breaks in the plates allow the molten rock to pour up to the surface of the earth. Then the molten rock cools and hardens, forming a cone-shaped mountain. Volcanoes surround the Mediterranean Sea and the North Pacific Ocean.

The soil that ash from volcanoes leaves behind is rich and fertile and has produced some of the best farming land in the world. Human beings have chosen to live under volcanoes for the rich farmland. Prehistoric man valued the natural volcanic glass, **obsidian**, since it gave toolmakers the first material for making really sharp knives and cutting tools.

The most famous volcanoes in history are Mt. Vesuvius in southern Italy and Mt. Aetna on the island of Sicily. In A.D. 79, Vesuvius erupted



Mount Vesuvius, a volcano in Italy near Naples, erupted in A.D. 79, destroying the ancient cities of Pompeii and Herculaneum.

and buried the Roman town of Pompeii in ash, leaving a perfectly preserved ancient town for archaeologists to uncover many centuries later. Mt. Fujiyama, a volcano in Japan, has been revered by the Japanese for its majestic size and beauty. The eruption of Krakatoa in Indonesia during the 1890s sent a cloud into the atmosphere that left ash all over the world.

The large, flat areas of the world are called *plains*. Plains are not truly flat; they have a rolling surface, but no mountain ranges. Plains have been historically the home of **nomadic** peoples, who have no settled homes but follow wandering herds of animals. The plains of eastern Europe and western Asia are huge expanses of thousands of miles of grassland, called **steppes**. The Great Plains of the North American continent were once covered in grasses that grew as tall as a man. Such grasslands are called **prairies**. The plains areas nearer the tropics are too hot to grow tall grasses, but they support **savannahs**, lands with low grasses and stands of scattered trees. **Plateaus** are plains high above sea level; they are usually part of a mountain, where the air is cooler and the winds from the mountains are strong. Central Mexico is a plateau, as are Tibet (north of the Himalayas) and the central portion of India, called the Deccan Plateau.

nomadic: of or belonging to a *nomad*, a member of a people that moves from place to place with no fixed home

steppe: dry, level grasslands with few to no trees

prairie: a large area of flat or rolling land, with no mountains and few trees

savannah: grassland containing scattered trees

plateau: a large area of high land

A *desert* is land with very little or no water. Human life is difficult in deserts, because they are unfriendly to human travel and development. Africa contains the world's largest desert, the Sahara, which stretches the whole width of the continent. The other major deserts that have affected history are the Arabian Desert, in the center of the Arabian Peninsula, and the Gobi Desert, which cuts China off from the West. In North America, the Southwestern Desert may also have affected history by keeping people in the north from invading Mexico and so protecting the development of Mexican and Central American civilization. Between the sea and the Andes Mountains on the west of South America are high, windswept coastal deserts. The civilization of Peru was protected from invasion by the difficulty of crossing those miles of barren waste.

The Waters: Oceans, Seas, Lakes, and Rivers

pacific: calm, peaceful

Most of the earth's surface is actually covered by water. On a map it looks like all the continents are surrounded by one big ocean, which we divide for convenience into four *oceans*: the **Pacific**, the Atlantic, the Indian, and the Arctic. Besides the oceans, the earth has other bodies of water: seas, rivers, and ice.

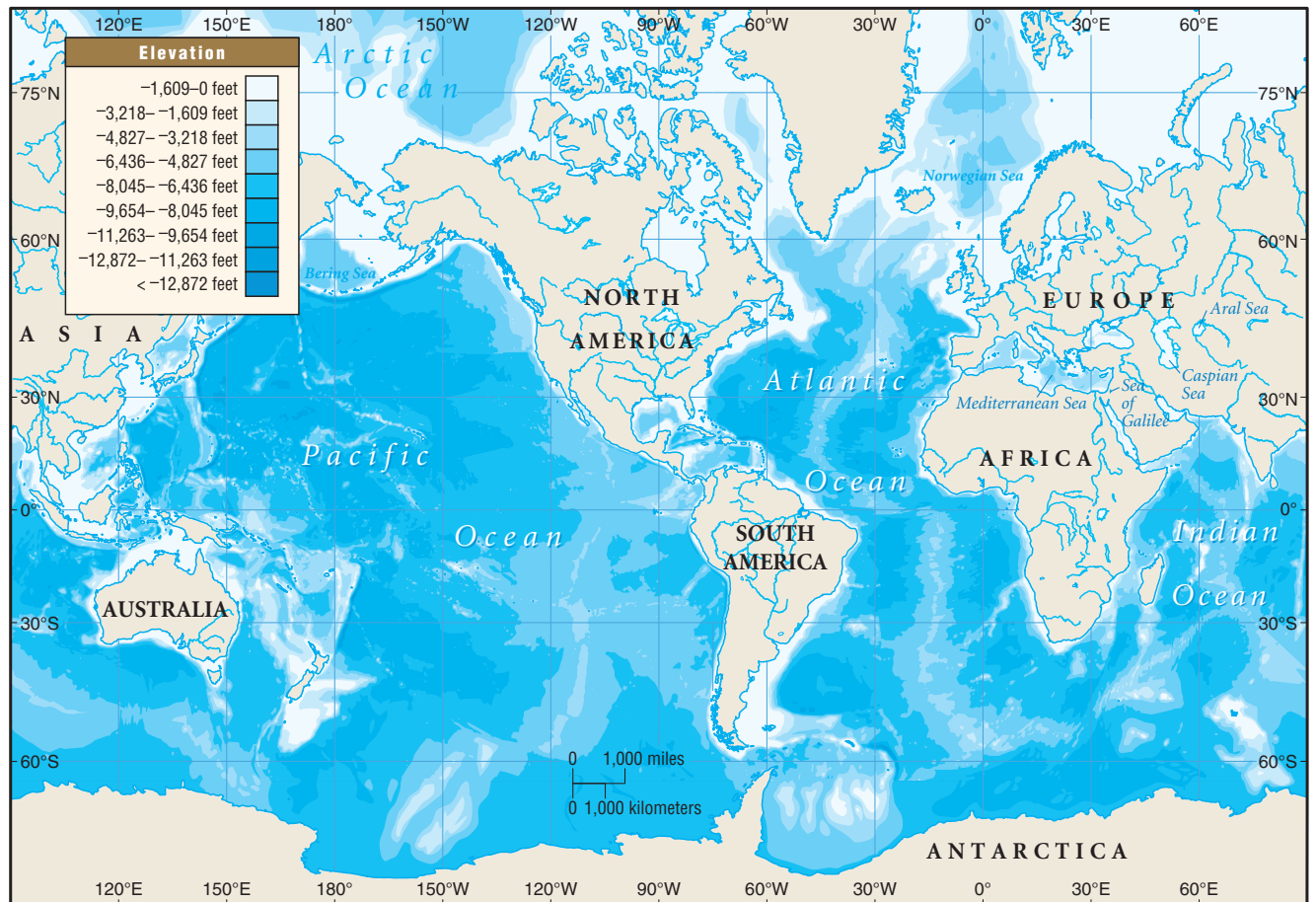
The largest ocean is the Pacific; it is so large that all the landmasses in the world could fit into it. The Pacific Ocean is more than 64 million square miles, extending from Asia and Australia to North and South America.

The Atlantic Ocean is east of North and South America and west of Africa and Europe.

The Indian Ocean has Africa to the west, Asia to the north, Australia to the east, and Antarctica to the south. The Arab traders sailed across the Indian Ocean to India and Africa and brought their Muslim religion to the islands of Malaysia at the southeastern tip of Asia.

At the top of the world is the Arctic Ocean, encircled by Europe, Asia, and North America. All its waters are frozen much of the year, and a good part of the ocean lies under the northern ice cap all year round.

As you can see by looking at a map, the lands of the continents can enclose parts of oceans. The parts of the oceans enclosed by land are called *seas*. Seas are large bodies of salt water. Some are connected to the larger oceans and are surrounded by land on three sides. Others are really saltwater lakes, such as the Aral and Caspian Seas in Asia, or even large freshwater lakes, such as the Sea of Galilee. Though small compared to the oceans, these seas have nevertheless been important in



World map showing seas, oceans, lakes, and rivers, with an elevation scale keyed to the colors of the map

history. Freshwater bodies of water surrounded by land are called *lakes*. Lakes can be small or as large as some seas — such as the Great Lakes of North America.

A student of history should be able to find the Mediterranean Sea on a map. Our Christian civilization began in the lands about its shores. The Mediterranean (from Latin words meaning “in the middle of land”) is surrounded by the three continents of Europe, Asia, and Africa. The ancient peoples of Phoenicia (foh-NEE-shah) and Greece traveled this sea and early on brought Europeans to the north coasts of Africa. The Mediterranean Sea drawn on a map has been said to look like a winged sea horse.

The body of water called a *river* is found on every continent except Antarctica. A river is a large stream that carries fresh water into an ocean, lake, or another river. Rivers are essential to life because their water is

irrigation: the supplying of land with water, especially for growing crops

drinkable and can be used for **irrigation**. It is fresh water, unlike the salt water of oceans.

The world's longest river is the Nile River in Africa; it gave life to the civilization of the ancient Egyptians. The Amazon River in South America is the second longest, although it carries more water than the Nile. At some places, the Amazon is so wide you cannot see across it. The Yangtze River in China is the longest river in Asia; the Mekong of Southeast Asia is the second longest Asian river. The Mississippi River is the longest river in the United States, and combined with the Missouri River that flows into it, is one of the longest rivers in the world. The Danube River and the Rhine River are the longest rivers in Europe; they form the center of much of the continent's history. The great river valleys of the world have been the most hospitable to human life. The first human civilizations began in valleys through which ran rivers with their life-giving waters.

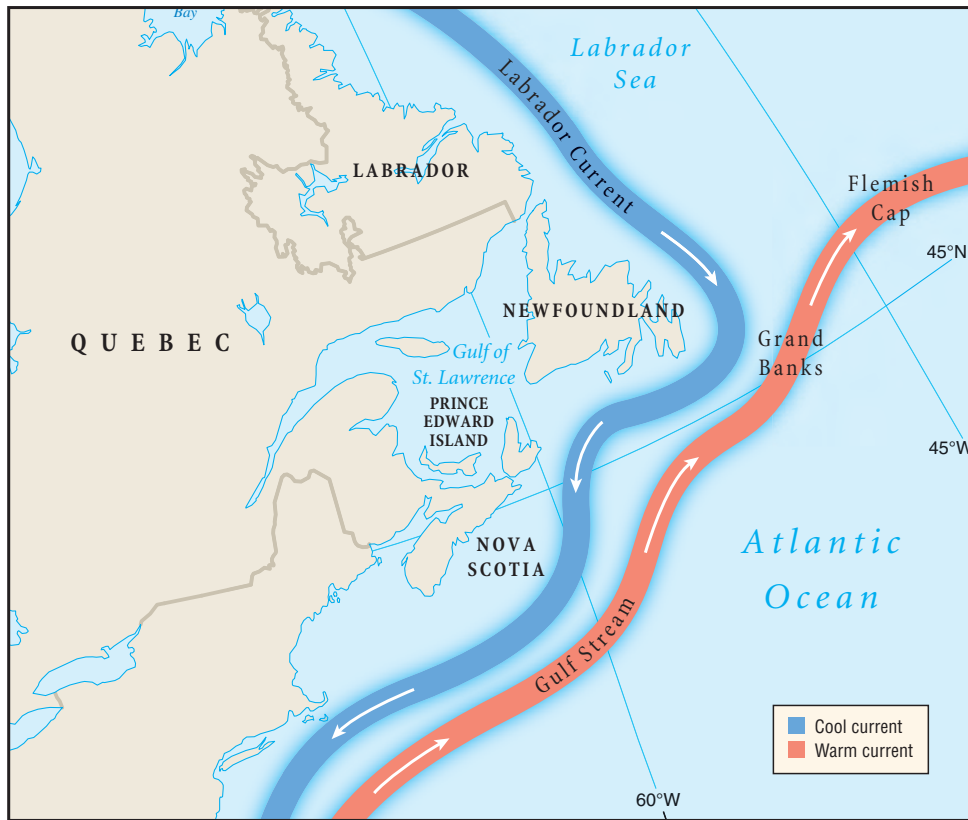
Much of the world's water is frozen. The two poles of the planet are covered with thick layers or caps of *ice*. These ice caps are called the Arctic (North) and the Antarctic (South) ice. The southern continent of Antarctica carries a mile-thick ice cap. The Arctic ice cap is just as thick but smaller in area.

Rivers of ice form in certain high mountain ranges—the Alps, the Himalayas, and the Canadian Rockies—and are almost as huge and thick as the ice caps. The ice rivers are called glaciers. During the long periods of prehistory, called the Ice Ages, the northern ice cap grew or shrank in size, and glaciers descended from it over the continents of Asia, Europe, and North America, pushing animal life into the central parts of the planet.

The Ice Age glaciers carved out clefts and hollows in the land that filled with water and became northern lakes. The glaciers pushed earth and rocks ahead of them, leaving behind glacial hills. Rainfall that might have returned to the oceans was locked up in these glaciers, lowering the level of the oceans so that land bridges could be seen between the continents. They also opened up shorelines that have since returned to the sea.

Climates

The word “climate” refers to all weather conditions, including rainfall and cloud cover, and temperature. Latitudes affect climates because a region farther from the equator is cooler; but other factors also affect climates,



The Gulf Stream and the Labrador Current

such as altitude, the amount of water in an area, and the wind patterns. Water currents can make a difference too. The **Gulf Stream** carries warm water from the Gulf of Mexico to the north, making England's climate moderate. At the same latitude as England is Labrador, a frozen wasteland most of the year because of the icy Labrador Current coming down from the Arctic.

Water is less changeable than air in holding the same temperature. Because they lack water, the world's deserts can undergo extreme temperature changes, even in a single day. This is especially so in central Asia, where temperatures may rise to 130 degrees in the day and then drop to below freezing at night.

The climate regions of the earth are called *zones*, from the Greek word for belt, because they run belt-like around the globe. At the center of the globe are the tropics—the tropic of Cancer (north of the equator) and the tropic of Capricorn (south of the equator). The polar regions are frozen year-round and inhospitable to life. But the **temperate** zones—the

Gulf Stream: a warm-water ocean current that flows in the North Atlantic from the Gulf of Mexico, northward along the coast of the United States, and then to the British Isles

temperate: not too hot, not too cold



Tropical wet (hot and rainy all year)	Mediterranean (hot, dry summer and mild, rainy winter)	Subpolar (short, cool summer and long, cold winter)
Tropical wet and dry (hot, with rainy and dry seasons)	Humid subtropical (hot, rainy summer and mild, rainy winter)	Polar (cold all year)
Desert (dry, either hot or cold)	Marine (cool and wet)	Highland (climate varies with elevation)
Semi-arid (short rainy season)	Continental (hot summer, cold winter)	

A climate map of the world

tropics: the regions close to the equator

latitudes between the frozen polar zones and the **tropics**—have been where most of human history has occurred.

The regions of the earth have had basically the same climate through all of human history. The cold regions of the polar north and south and of the heights of mountain chains have grown or shortened through the ages, but have basically stayed the same. Europe has enjoyed a temperate and moist climate in recent centuries, as have China and Japan. The Middle East, North Africa, and India have remained warm and semi-tropical. The climate of the Americas has been throughout human history much as it is today.

The chief climate events in human history have been the coming and going of several Ice Ages, when the northern glaciers spread down over parts of Europe, Asia, and North America. No Ice Age has occurred

since human beings have been writing and recording their history. Only warming and cooling periods have been noted in recorded history. In the northern half of Africa, the plains of the Sahara were a fertile grassland when the last glaciers withdrew and the world's climate changed. Rainfall shifted away from northern Africa, the rich pastureland dried, and **oases** disappeared. Today, the Sahara is only a dry sand and rock desert.

oasis (pl. oases): a fertile green area in an arid, or dry, region

Chapter 1 Review

Let's Remember Please write your answers in complete sentences.

1. What determines the directions east, west, north, and south?
2. Name the seven continents. Which continents touch another continent? Which continents stand alone?
3. What is the difference between an island and a peninsula?
4. How many oceans are there? What are their names?
5. What is the longest river on the earth? What is the second longest? What is the longest river in the U.S.A.?
6. How can scientists tell how old a mountain range is?
7. What is a desert? Where are the largest deserts of the world?
8. Where are the tropics? Where are the temperate zones?

Let's Consider For silent thinking and a short essay, or for thinking in a group with classroom discussion:

1. Why are deserts very hot in the daytime and very cold at night?
2. Why do you think so many ancient civilizations developed so differently on the one continent of Asia?
3. Why do civilizations begin in major river valleys?

Things to Do

1. Find all the continents on a globe. On a flat surface, make a map of the continents you have seen on the globe. Consider why it is difficult to draw a flat map of a round surface.
2. With your finger, trace the course of the following rivers on a globe or map: the Nile in Africa, the Yangtze in Asia, the Rhine in Europe, the Danube in Europe, and the Mississippi in North America. What

countries do they run through? With a piece of string, measure these rivers on the globe or map as well as you can. Find the legend or key. According to your string measurements, how long is each river?

3. Using your measuring string, find out how far the place where you live is from the equator, and then from the North Pole. Use the legend or key on your map. Consider what other weather-makers (mountains, open plains, winds, seacoast, etc.) make the climate of where you live what it is.
4. Look at a physical map of the world and find the great mountain ranges. Find the Alps in Europe and the Himalayas in Asia, the Rockies in North America and the Andes in South America.