

# Chapter 2

## The Land We Call Alabama

### Chapter Preview

#### TERMS

natural environment, natural resource, weather, climate, pioneer, geology, mineral, swamp, fertile, surface water, wetland, waterway, aquifer, groundwater, salt marsh, delta, estuary, subtropical, temperature, precipitation, natural hazard, drought, flash flood, lightning, tornado, hurricane, evacuate, natural vegetation, evergreen tree, deciduous tree, ecosystem, technology

**Above:** This view of the Talladega Mountains, in the Piedmont region, was taken from Mount Cheaha, the highest point in Alabama.



**I**f you were the first person to come to Alabama, what might you have seen? What was Alabama's natural environment like? (The **natural environment** is the things that are part of nature.) What did the land look like? How was the landscape formed? What natural resources did the first people find to help them live in Alabama? (**Natural resources** are things in the natural environment that people can use.) American Indians (Native Americans) came first. Then later, the explorers and settlers arrived. They all found a land rich in plants and animals. They needed these things. These people discovered an ideal place for hunting and farming. They found plenty of good water to drink. They found rivers to travel. Many people stayed to make their lives in this land.

The people living here found that Alabama has four distinct seasons. It has very warm summers and cool, brisk falls. Winters are slightly cold while springs are bright and sunny. This kind of weather made it a good place to live and farm. **Weather** is what is going on outside. It includes how hot or cold it is, cloudiness, rain, snow, and wind. The weather in Alabama can be almost anything! Snow may fall unannounced. A storm may take an unexpected path. You may take your umbrella, but only see sunshine. People who predict the weather do the best they can from available information.

The people in Alabama have enjoyed the climate for thousands of years. (**Climate** is the average weather over a long time.) Many people—American Indians, Europeans, Africans, and Asians—have lived in Alabama. Each of these groups made its mark. They brought different arts, foods, customs, religions, and languages.

In this chapter, you will learn about Alabama's land regions, weather, and climate. You will also discover the different cultures of Alabama. You will see how they set the stage for historic events. It all will come together in the Alabama of today.

# Focus on Reading Skills

## Reading a Map

**Maps are very important in our study of many subjects. A map is a picture or drawing of a larger place. Maps show landforms such as lakes, rivers, and mountains. Maps can show where people live. They can show the kinds of crops grown. They can even show where events took place.**

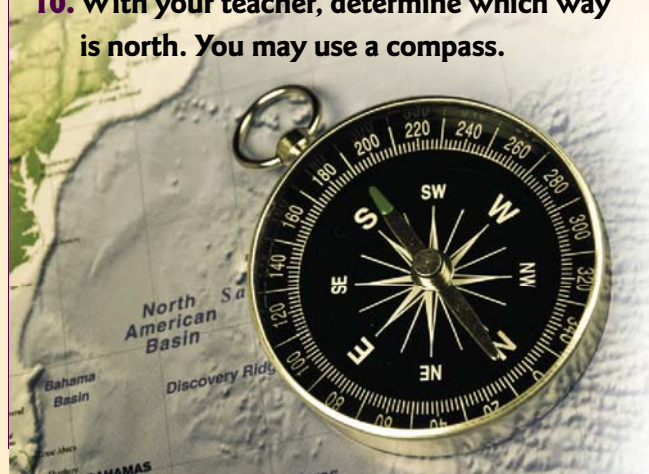
If you can read a map's parts, you can read a map. A map might show the height of the land. Such a map is called a *relief* map. Different colors can be used to show different land heights. Land height above sea level is its elevation. The colors might show other things like where crops are grown.

The compass rose shows which way is north, south, east, or west. It usually points to the top for north, but not always. If you cannot find a compass rose on the map, the top of the map should be north.

Now we will read a map. Find the relief map of the United States of America in the Atlas of Alabama. The leader will read the instructions. Everyone will perform the task. You may play on teams or individually.

1. Point to the compass rose.
2. Determine and point to which direction is north on the map. Which direction is south? Which direction is east? Which direction is west?
3. Point to Alabama.
4. What large lakes are north of Alabama?

5. What large body of water is directly south of Alabama?
6. If you were going to drive to California, in which direction would you go? To Indiana? To South Carolina?
7. Study the difference in colors on the map. Can you tell that the tan, brown, and orange show land at higher elevations? Which part of the United States appears to have more mountains? The eastern part? The western part?
8. Study the difference in colors in Alabama. Which area of Alabama appears to have lower altitude? The southern part? The northern part?
9. Now close your eyes. Point to the north without opening your eyes. Keep your hands pointing and open your eyes. Is everyone pointing in the same direction?
10. With your teacher, determine which way is north. You may use a compass.



# Section 1

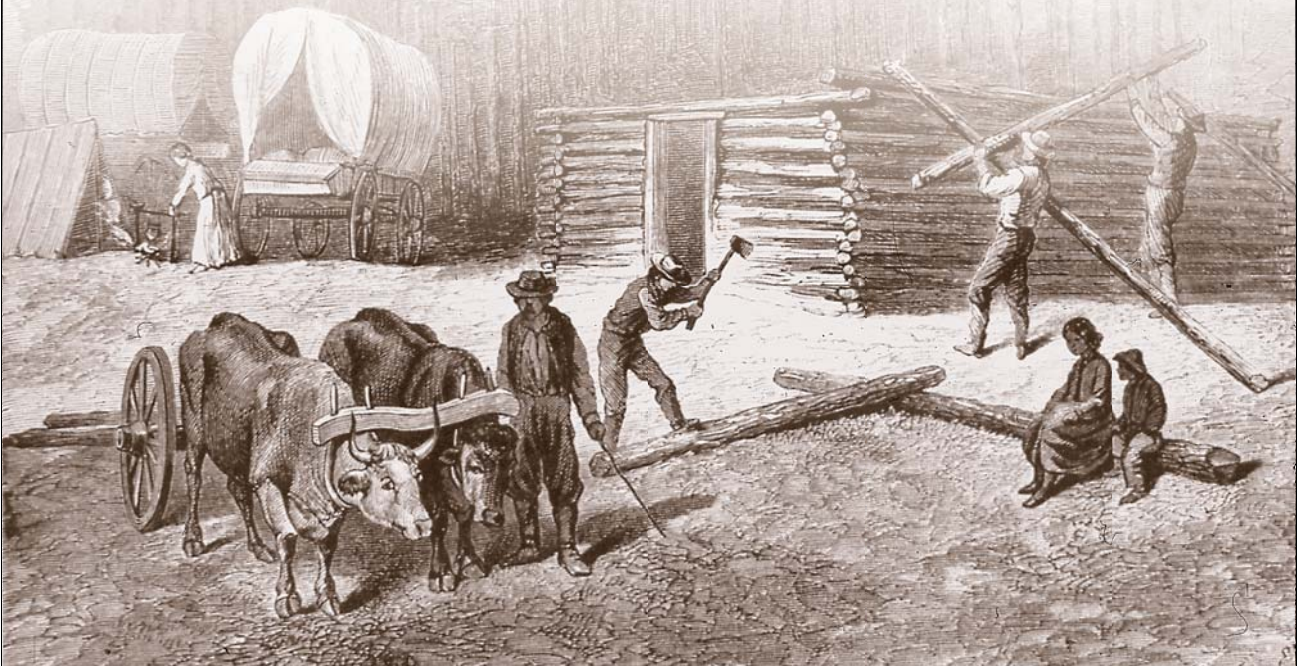
## Regions

### As you read, look for

- what the explorers and pioneers found in Alabama;
- regions of Alabama;
- natural resources;
- human environments in settlements;
- terms: **pioneer**, **geology**, **mineral**.

**Explorers and pioneers (early settlers) were the first Europeans** to come to Alabama. Some came from settlements in Virginia, Georgia, and the Carolinas. Their land was worn out from years of farming. These farmers wanted fresh land to grow better crops. Some of them decided to move to Alabama to start new farms.

**Below:** *In the early 1800s, Alabama was considered to be the western frontier. Settlers followed roads, rivers, and valleys looking for farmland.*



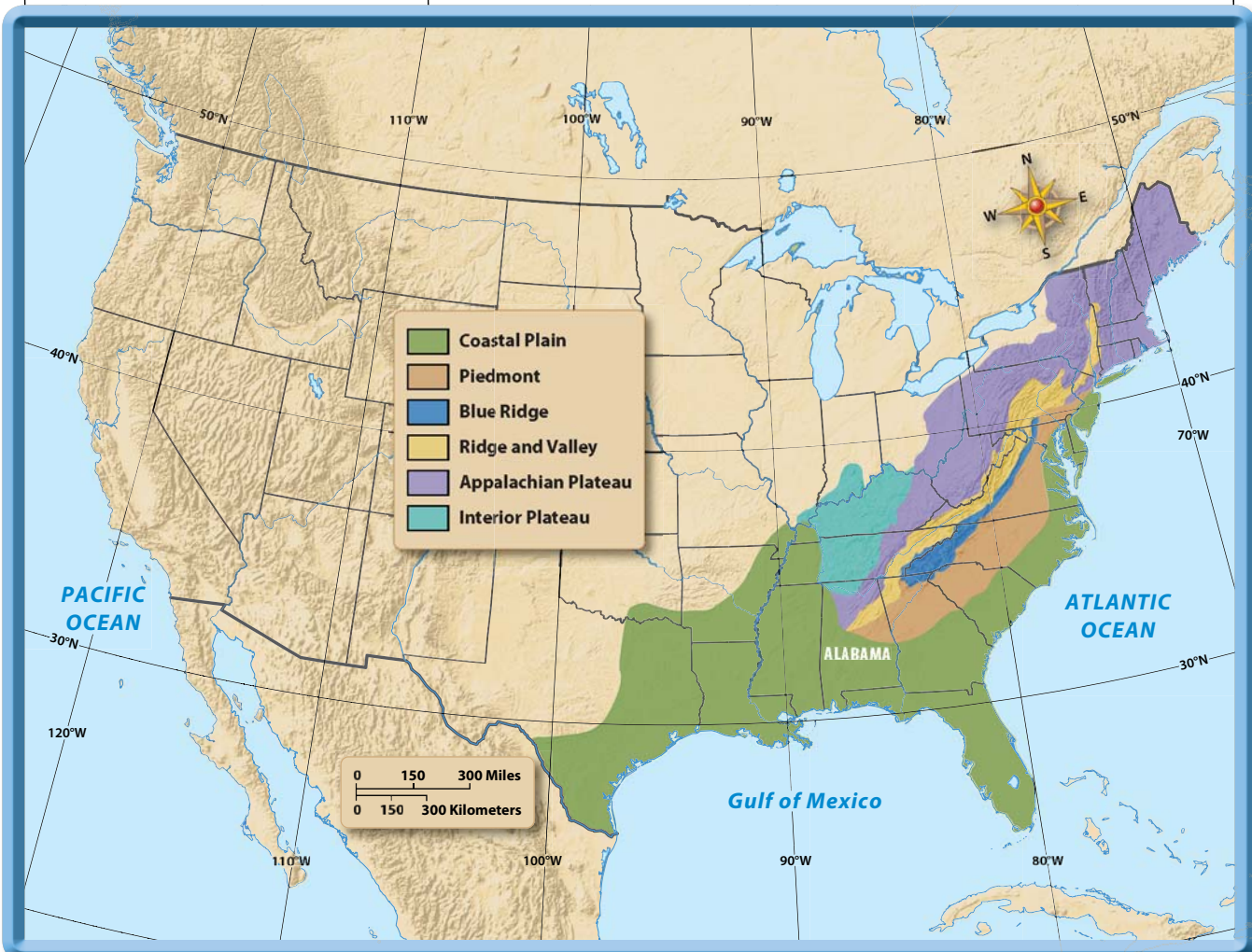
## Map 2 Land Regions of the Eastern United States

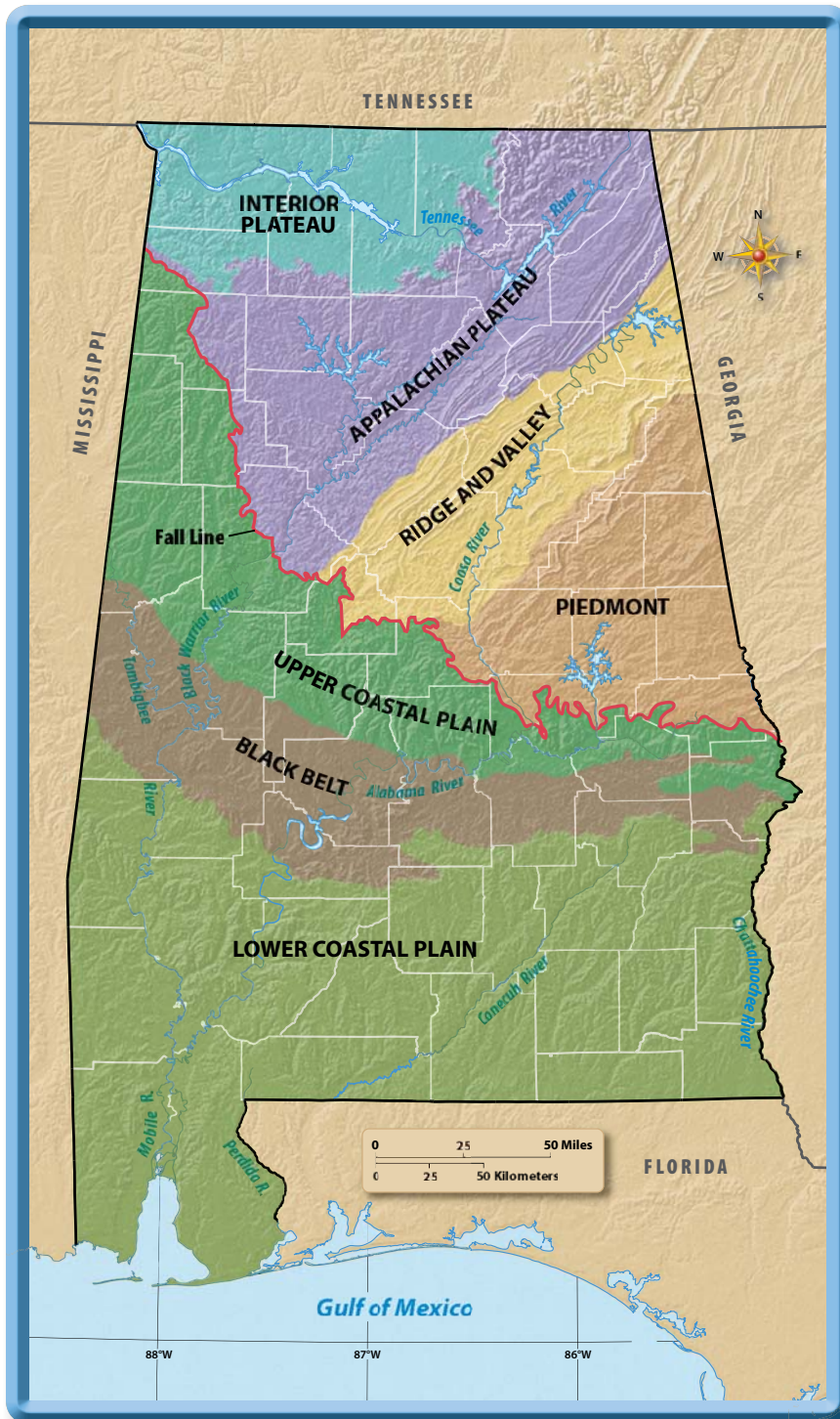
**Map Skill:** Which of the states that border Alabama appear to have just one type of land region?

### Choosing Where to Settle

These people had to decide where in the new territory to settle. They found five different kinds of land in Alabama. They also had to decide the best way to get there. As time passed, travelers told one another about roads to Alabama. People who came back told others the easiest routes for travel. Word was also passed on about where the best farmland was located.

Farmers were not the only people coming to Alabama. Some of the settlers brought their black slaves. There were also a few free blacks among the settlers. Later, other people came as storekeepers, miners, builders, and laborers. They also had to know how to get here and where they could work. The settlers had to decide where to move in the new territory. The regions of Alabama were an important part of their decision. It was harder to travel to some of the regions than to others. And the land was better for farming in certain regions.

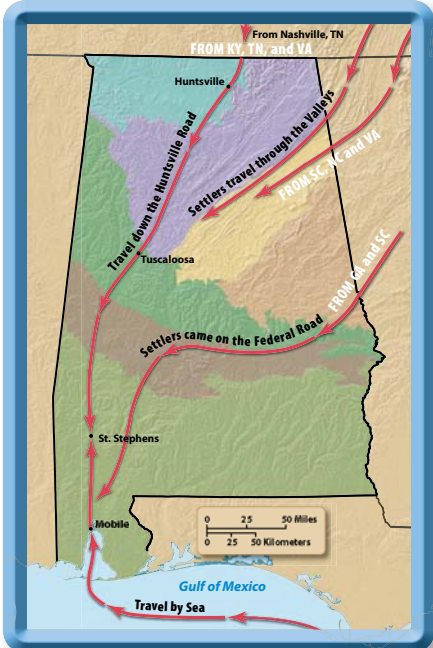




### Map 3

## Land Regions of Alabama

**Map Skill:** Which land region appears to be the largest?



### Map 4

## Settlers' Routes into Alabama

**Map Skill:** Looking at maps Map 3 and 4:

- Which region seems best for traveling through the valleys?
- What states did most people using the Huntsville Road travel through?

## Land Regions of Alabama

Alabama's land is divided into regions based on the geology of the rocks. **Geology** deals with the history of Earth, especially the history recorded in rocks. The land regions in Alabama do not stop at the state line. They are also in neighboring states. The five regions are the Coastal Plain, the Piedmont, the Ridge and Valley, the Appalachian Plateau, and the Interior Plateau.



**Below:** Salt marshes along the coast of Alabama are an important breeding place for many kinds of aquatic life.



### **The Coastal Plain**

The southern part of Alabama seems almost flat. But part of this area is made of gently rolling hills. It lies in a region called the Coastal Plain. Notice that the Coastal Plain stretches all the way from Texas to New Jersey. Rivers that flow across the Coastal Plain run toward the ocean. Elevations in Alabama’s Coastal Plain range from about 500 feet inland to sea level (0 feet) at the Gulf of Mexico. Oil and natural gas are found in this region. More than half of Alabama’s land lies in the Coastal Plain.

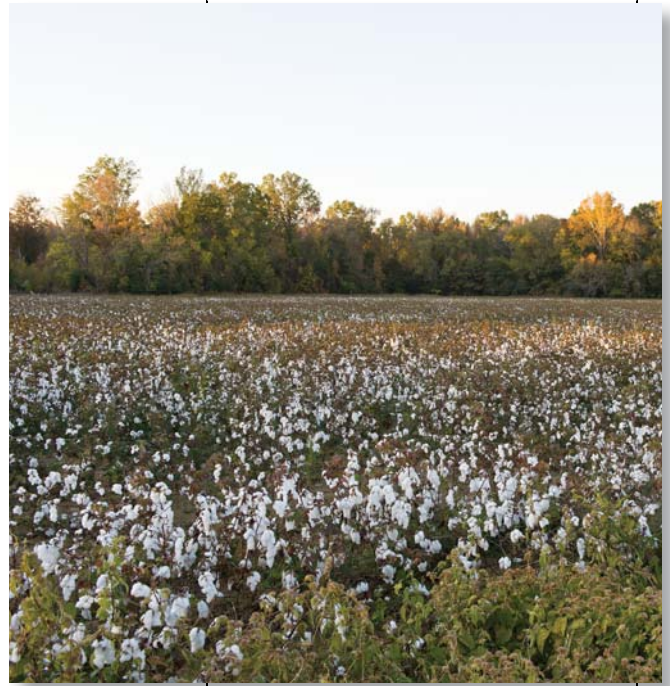
Remember, these settlers did not have cars or trucks to take them to Alabama. There were no paved roads to make travel easier. They came in wagons and carts or riding horses or mules. Some even came on foot. Because the Coastal Plain is flatter, it is easier to travel through than mountains. Many settlers moved into this area because they could travel by river or over flat land. They came to the Coastal Plain mostly from South Carolina and Georgia. They traveled on or near the Federal Road. Some came by ship into Mobile Bay and then up the Alabama and Tombigbee Rivers.



The Fall Line is at the northern edge of the Coastal Plain. This imaginary line separates the Coastal Plain from the other regions. Elevations in the northern part of the state are higher than on the Coastal Plain. Where rivers flow from the higher land onto the Coastal Plain, you usually find waterfalls or rapids.

Why would people later build cities like Wetzumpka on the Fall Line? At that time, there was no electricity. People had to use other ways to make machinery work. Settlers who had factories needed waterpower to run their machines. Those who planned gristmills for grinding grains into flour and meal also needed power. So these people moved along the Fall Line to harness the power of the swift-flowing water.

The Black Belt is an area with deep, rich soil that is very dark. It is located in the Coastal Plain just south of the Fall Line. Many settlers wanted a farm in the Black Belt. This soil grew bigger crops than other soils. Most of these settlers wanted to grow cotton.



**Above:** *The Black Belt, at the northern edge of the Coastal Plain, is still primarily an area of farmland and small towns.*







## About Alabama

The oldest known rock in the state is in Lee County at Chewacla State Park. It is over one billion years old.

**Below:** *The valleys of the Piedmont are good for farming. This small Piedmont farm is in Randolph County.*



### The Piedmont

Another region begins in east-central Alabama. The Piedmont extends through Georgia and the Carolinas all the way to New Jersey. It is a rolling landscape with low hills and broad valleys. The hills of the Piedmont are all that are left of an old mountain range. Over time, wind and rain have worn away most of the mountains. Mount Cheaha, the highest point in the state, lies in the Talladega Forest in the Piedmont region.

Settlers moved into the Piedmont where there was good land. The river valleys were ideal for growing cotton and other crops. The success of farming there made the Piedmont attract more settlers. These new people needed supplies. Villages and towns were built to meet the settlers' needs. These settlements provided ways for others to make a good living. The towns might have a general store and a blacksmith shop. Some villages had a gristmill. There were even some sawmills that made lumber from the area's many trees. With all of these changes, the settlers created human environments.





Some of the rocks in this area changed long ago to marble. These natural resources attracted new settlers to work in the Piedmont's stone quarries.

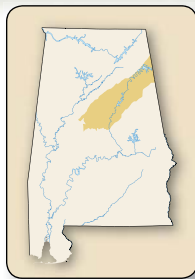
**Above:** *The Piedmont has broad valleys like this one in Talladega County.*





**Above:** *The valley of the Little Cahaba River near Leeds was settled before Alabama became a state. Now it is home to several horse farms.*

**Opposite page, below:** *The Red Mountain Cut is one of the deepest in the country. It allowed the Red Mountain Expressway to connect Birmingham with its southern suburbs. You can view downtown Birmingham from this walkway along the Cut. You can also see a cross section of the geology of Red Mountain.*



### **The Ridge and Valley**

The Ridge and Valley region begins just south of Birmingham. It extends all the way into Pennsylvania.

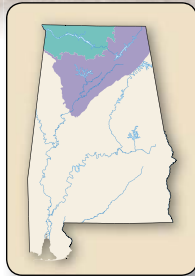
The Ridge and Valley region is rich with natural mineral resources. (**Minerals** are ores or other substances found naturally in the earth.)

Iron ore, coal, and natural gas are found in this region. Later, people came to Alabama to work in the coal and iron ore mines.

The major landscape features in this region are Red Mountain, Lookout Mountain, Oak Mountain, Shades Mountain, and Jones Valley.

Many settlers brought their wagons and animals through these valleys. They came from Virginia, North Carolina, and Tennessee to live in Alabama. They found that the rich soils in the river valleys were good for all kinds of farming. The Tennessee and the Coosa River Valleys were also good for growing cotton. But not all parts of Alabama were suitable for that important crop.





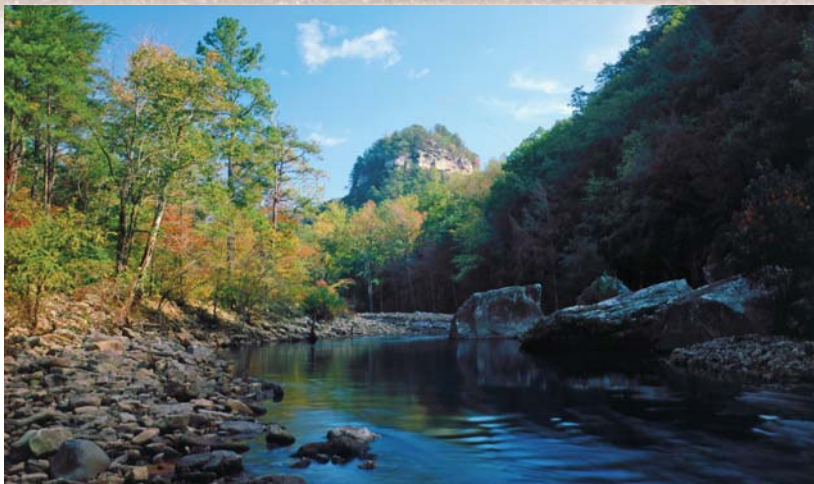
### ***The Appalachian Plateau and the Interior Plateau***

North and west of the Ridge and Valley are two plateau regions. A plateau is a higher area made of layers of rock that are nearly flat.

The Appalachian Plateau region begins in Alabama around Jasper. It extends north through Tennessee and Kentucky into western New York. Coal is found in this region. The Interior Plateau begins in northern Alabama and extends north to the Ohio River and into southern Indiana. The Tennessee River has made a wide valley that runs through the Interior Plateau region. People sometimes call this part of Alabama the Highland Rim.

Settlers moved into these regions mostly through the valleys of the Ridge and Valley region and the Huntsville Road. Many of these people came from North Carolina, Virginia, Tennessee, and Kentucky to seek new land.

Many farmers moved to the river valleys of the region to grow cotton. Some moved to other land to grow other crops. Later, miners and quarrymen came to work in the coal mines and stone quarries.



## About Alabama

Little River Canyon (left) is the deepest gorge east of the Mississippi River.

### Think It Through!

1. Name the five land regions in Alabama.
2. What routes did settlers travel to get to Alabama?
3. How can mineral natural resources bring people into an area?

**Top:** *The McCrary farm near Huntsville is the oldest farm in Alabama still owned by the same family. Thomas McCrary bought the land in 1809. It is located in the Interior Plateau.*

**Opposite page:** *DeSoto State Park in the Appalachian Plateau has beautiful waterfalls.*

## Section 2

# Mineral, Energy, and Water Resources

## About Alabama

Hematite—red iron ore—is the official state mineral.



### As you read, look for

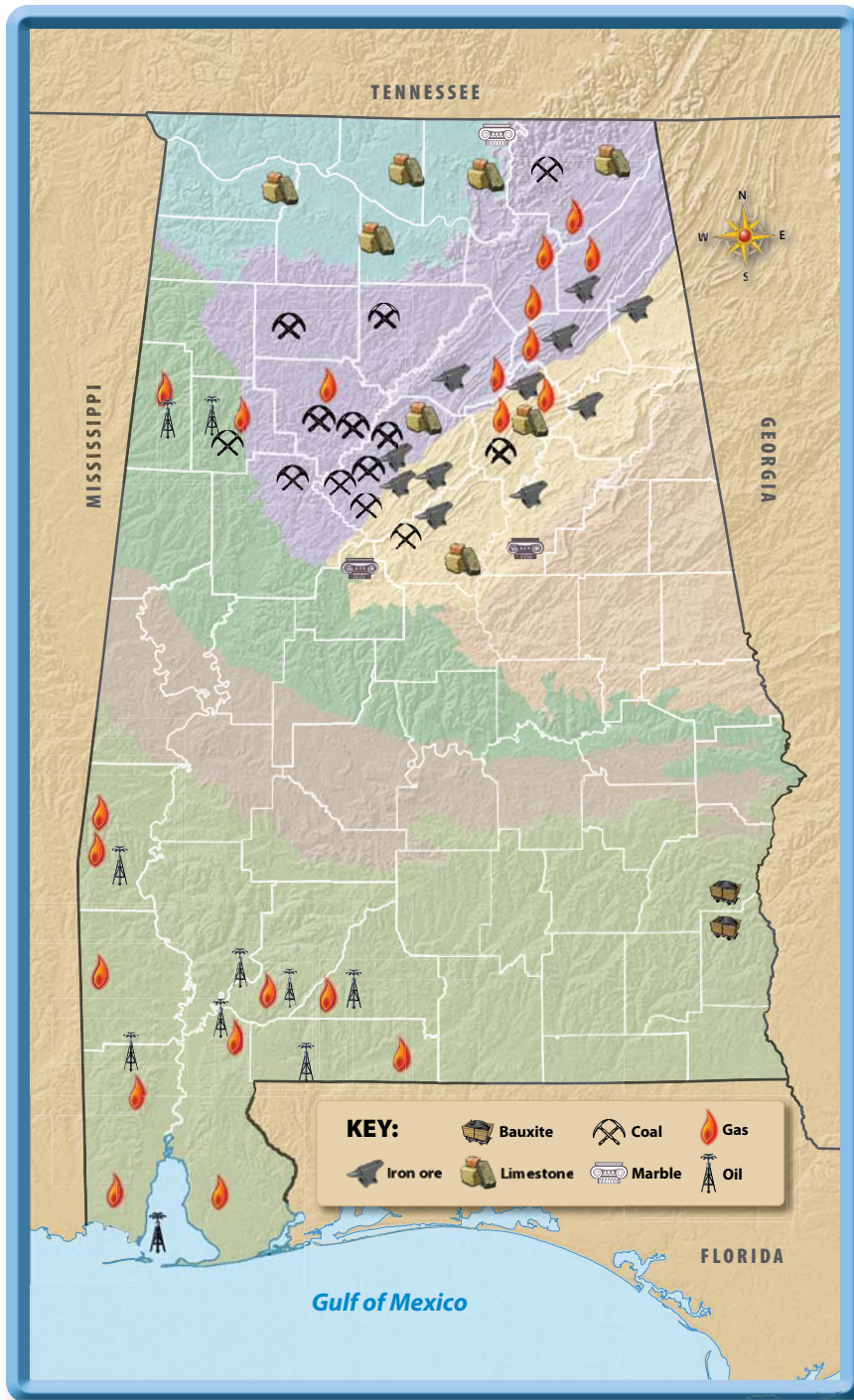
- types of resources;
- types of water resources;
- Alabama's major rivers;
- terms: **swamp**, **fertile**, **surface water**, **wetland**, **waterway**, **aquifer**, **groundwater**.

### Why did large numbers of settlers come to Alabama?

The area's natural resources made it a great place to live. The weather and rich soil were good for farming. Because of Alabama's climate, most of the state had a growing season of over 200 days. The area also had a good supply of water and many kinds of minerals. These were all important reasons for choosing Alabama as home.

The layers of rock in Alabama contain many minerals that people use. Sand and clay are used to make pottery and glass. Rocks are used to make everything from arrowheads to skyscrapers. Some of the more important rocks are limestone, sandstone, and marble. You will learn later how iron ore helped Birmingham grow "magically."

Some of these rocks give us clues about Alabama's prehistoric (before written history) environment. Limestone formed at the bottom of a saltwater sea. Wherever you find limestone, you know that the land was once under an ocean. Coal is made of plants and animals that once lived in a swampy environment. So where you find coal, you know that there once was a **swamp** (flooded forest) in that area.



## Map 5 Mineral and Energy Resources

**Map Skill:** What mineral or energy resources are found in or near your county?



**Above:** The fertility of soil is important to more than just farmers. It can have a big impact on the area's people and businesses.

### Soil

Rocks break down very slowly, forming soil. The minerals that were in the rocks become part of the soil. Decayed material from plants also becomes part of the soil.

In Alabama, there are many kinds of rocks and minerals. There are also many kinds of plants. So Alabama has many kinds of soil. Some soils are very **fertile**; that is, they are good for growing things. Other soils are very poor for growing things.



## Map 6 Alabama Rivers and Lakes

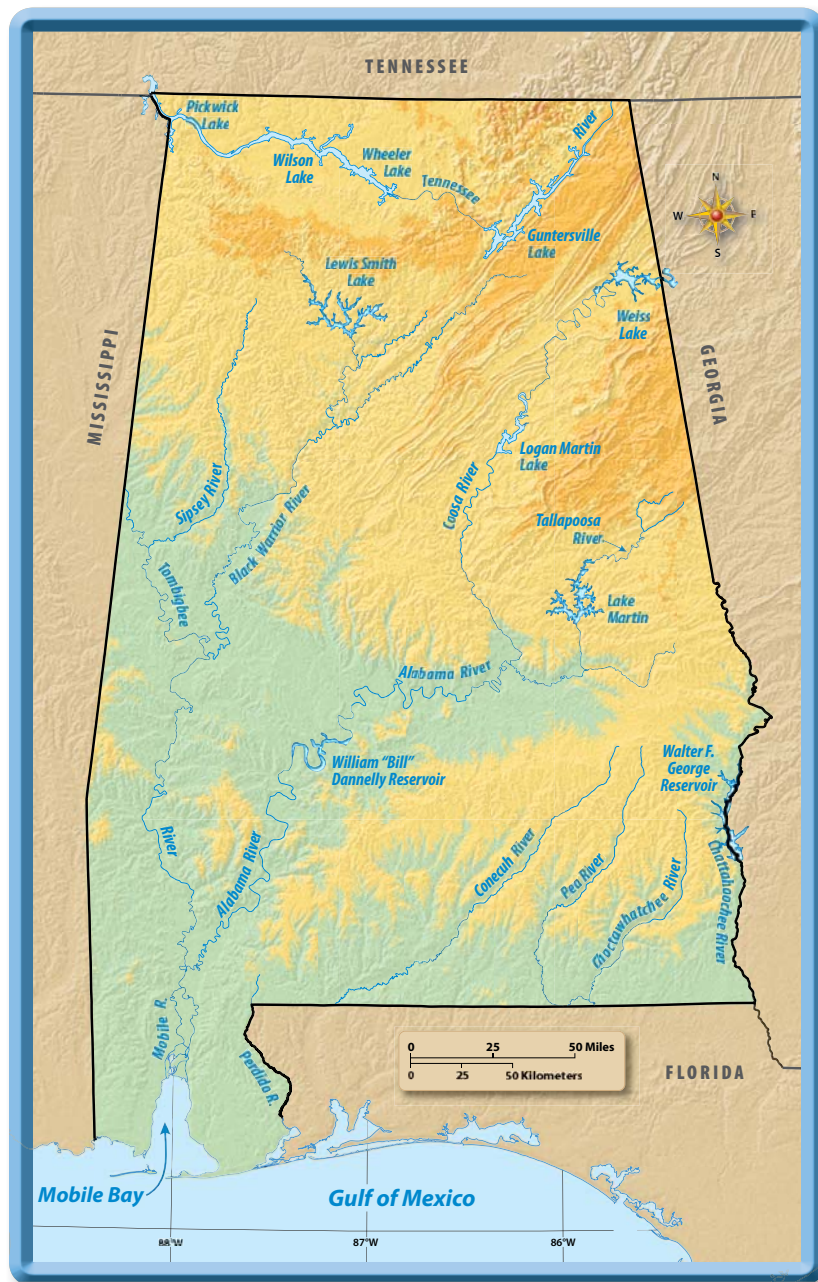
**Map Skill:** From your home, which river(s) would you travel to get to the Gulf of Mexico?

## Water Resources

Freshwater is an important part of the natural environment. Plants, animals, and people could not survive without water. Alabama's water resources are found on the surface of the land and underground.

### Surface Water

**Surface water** is found in rivers, streams, lakes, and wetlands. (**Wetlands** are places that are wet all or part of the year.) Alabama has more than 77,000 miles of rivers and streams. The state



## Figure 4 Major Alabama Rivers

River	Source	Location	Direction of Flow
Alabama	Formed by Coosa and Tallapoosa Rivers; flows into Mobile River	Southwest Alabama	Southwest
Black Warrior	Northeast Alabama; flows into Tombigbee River	Central and western Alabama	Southwest
Cahaba	Origin is north of Birmingham; flows into Alabama River	Central Alabama	South
Chattahoochee	Flows into state from Georgia, then borders Georgia and Alabama; flows into Florida	Southeast Alabama	South
Choctawhatchee	Forms south of Eufaula; flows into Florida	Southeast Alabama	Southwest
Conecuh	Forms east of Montgomery; flows into Florida	South-central Alabama	Southwest
Coosa	Flows into state from Georgia; flows into Alabama River	East-central Alabama	Southwest
Mobile	Formed by Alabama and Tombigbee Rivers; flows into Mobile Bay	Southwest Alabama	South
Pea	Formed north of Eufaula; flows into Choctawhatchee River	Southeast Alabama	South
Tallapoosa	Flows into state from Georgia; flows into Alabama River	East-central Alabama	Southwest
Tennessee	Flows into state in northeast and exits northwest	Northern Alabama	West
Tombigbee	Flows into state from Mississippi; flows into Mobile River	Western Alabama	South



**Above:** Rivers below the Fall Line are usually broad and slow moving. The Tombigbee River near Demopolis in the Black Belt is famous for its white chalk bluffs.

has 6 rivers that are deep and wide enough for large boats. Rivers used for transportation are called **waterways**. Indians, settlers, traders, farmers, miners, and others used the waterways to travel and carry supplies.

Surface water could also be a problem. Settlers in wagons had no bridges to cross rivers, creeks, or swamps. They had to find other ways to cross the water. Sometimes they could use rafts to cross the river. Others used extra horses to pull wagons across creeks. Many just carried their belongings across on foot.

Study the chart on page 53 to find how settlers could use these rivers for travel. It is important to find where the river begins (source). You should also notice the direction of the flow. Keep in mind that these early settlers had no motors on their boats and canoes. Most of the river travel was *with the river's flow*. It was hard to

push with poles or paddles against the flow.

Three of Alabama's rivers form parts of the state's borders. The Tennessee River, the state's largest river, is part of our border with Mississippi. The Chattahoochee River is part of our dividing line with Georgia. The Perdido River is part of the border between Alabama and Florida.

### **Aquifers**

Did you wonder where the water in a spring or well came from? A great amount of water is stored beneath the surface of the earth. When it rains, some of the water soaks into the



ground. It fills up tiny spaces in layers of gravel and rock. These layers act like sponges and are called **aquifers**. Water stored in the aquifers is called **groundwater**. Groundwater seeps out of aquifers and forms springs.

Early settlers needed water close to the surface for drinking and watering their livestock. They got their water from wells, springs, creeks, and rivers. One of the reasons they chose a place to stay was a good supply of water. Notice that many cities and towns are on creeks and rivers.

There are 20 large aquifers in Alabama. They are located under the Coastal Plain, the Ridge and Valley, and the Interior Plateau regions of the state.

**Above:** *The broad rivers of the Coastal Plain begin as fast-moving rivers like the Little River on Lookout Mountain in the Appalachian Plateau.*



### **Think It Through!**

- 1. What is coal made of?**
- 2. Which river is part of the border between Alabama and Florida?**
- 3. Why was a good supply of water important to settlers?**

# Focus on Nature

## Alabama's Wetlands



**Wetlands are a special type of surface water.** Sometimes beavers create wetlands when they build a dam across a small stream.

The most common type of wetland in Alabama is a swamp. There are two large wetlands in the northern part of the state. The Sipsey River has created a swamp as it flows through northwest Alabama. The Tennessee River has also created a large wetland along its floodplain near Huntsville and Decatur. You can also find freshwater swamps in the coastal area. Lillian Swamp lies in Baldwin County.

Alabama's coastal region has other very large and important wetlands. Along the Gulf Coast are **salt marshes**. These grassy areas stay wet all year. Salt marshes are flooded with saltwater each day when the sea level rises with the tide. The water drains away after each tide, showing the soil.

*Wetlands in Alabama range from salt marshes on Dauphin Island (above) to the vast Mobile-Tensaw Delta (opposite page, above) to swamps near the Tennessee River (opposite page, below).*

These marshes are home to animals like insects, crabs, birds, and raccoons. As you move away from the coast, there are freshwater marshes.

One of the most important wetlands in Alabama is the Mobile-Tensaw Delta. (A **delta** is an area where a river divides before flowing into a larger body of water.) The Delta begins at Mobile Bay. It goes north to where the Alabama and Tombigbee Rivers meet. It is the second-largest delta in the continental United States! At least 126 kinds of fish and 30 kinds of amphibians live there. There are also 69 kinds of reptiles and 40 kinds of mammals. Some of the trees have



adapted to life in wet soil by growing “knees.” These knees give the tree extra support to stand up straight in water.

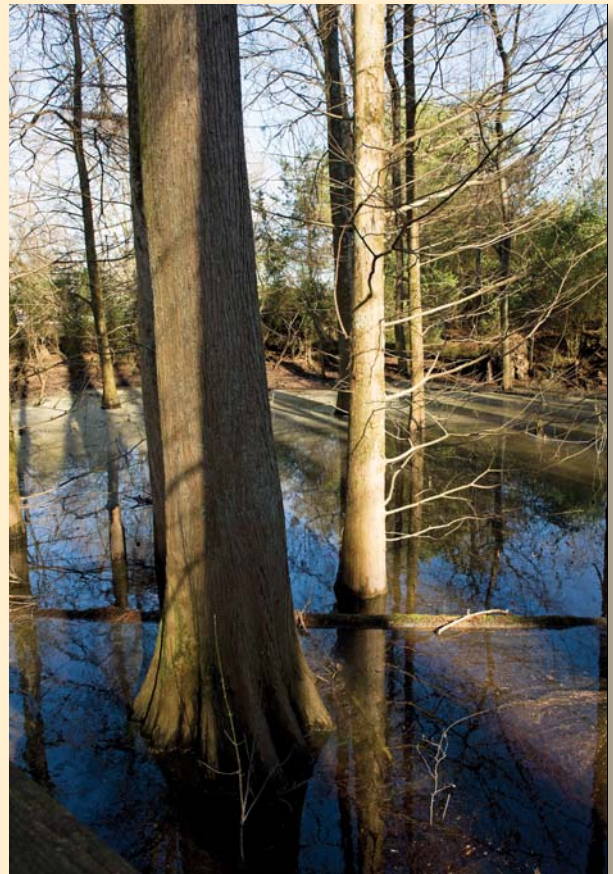
Mobile Bay and the Delta form an area called an estuary. An **estuary** is a place where freshwater from rivers mixes with saltwater from the ocean. This special mix of water is an ideal place for many water animals to live. Shrimp, blue crabs, and oysters need this kind of water when they are young. As they get older, they can live in saltier water. Many people along the Alabama coast depend on fishing to make a living. We would not have as many fish if we did not have coastal wetlands.

A deepwater oil-drilling rig exploded in April 2010. This accident in the Gulf of Mexico killed 11 people. It took BP, the company that drilled the well, 3 months to stop the oil from gushing.

The oil rose to the top of the water. It floated to the shore of the Gulf. The oil polluted the sand and wetlands of Louisiana, Mississippi, Alabama, Florida, and Texas. Many animals were killed by the oil.

People along the coast lost money because of the oil spill. The people who fish for a living could not fish. Restaurants could not serve fresh seafood. Vacationers did not come to the beach to play. The oil spill was a terrible event for Alabama and its neighboring states.

Human activity can destroy wetlands. Scientists believe that one-half of Alabama’s wetlands have been destroyed over the last 200 years. What caused this destruction? Trees were cut down. Ditches were dug to drain away the water. The water became polluted. Pollution in a river is carried to the coast where it can harm wetlands. It will take the help of people all over Alabama to protect the water.



## Section 3

# Weather, Climate, and Natural Hazards



## About Alabama

Mentone, in the mountains of northeast Alabama, was once a popular tourist spot. Rich people traveled there to avoid the summer heat. They arrived by train and in horse-drawn carriages. Mentone is still a cool place to visit!

### As you read, look for

- the climate zone for Alabama;
- types of precipitation;
- terms: **subtropical, temperature, precipitation, natural hazard, drought, flash flood, lightning, tornado, hurricane, evacuate.**

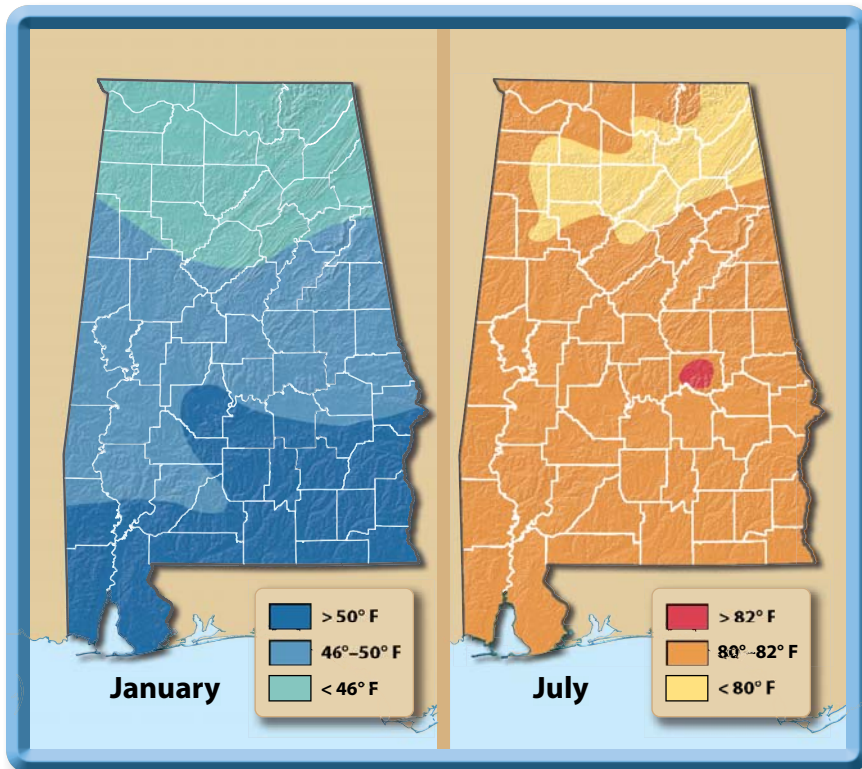
**Every television and radio station has people who talk about** the weather each day. They discuss how hot or cold it is and what the chances are that it will rain. They tell you what it is going to be like tomorrow and the next day. This information helps you plan what to wear.

Understanding your area's climate can be very useful too. It helps your school principal plan for how many snow days you may need this year. Knowing average amounts of rainfall helps farmers decide which crops to plant.

### Temperature and Precipitation

Alabama is located just north of the Tropic of Cancer. The state's climate is **subtropical** or temperate. The winter months are colder than the summer months. Alabama summers are long and very warm. Average monthly summer **temperatures** (how hot or cold it is) are in the low-80s°F (Fahrenheit). Winters here are short and mild with average temperatures in the mid-40s°F.

The mountainous areas of the state are at higher altitudes. These parts of Alabama are usually cooler year round. They have more winter days with temperatures near freezing, which is 32°F.

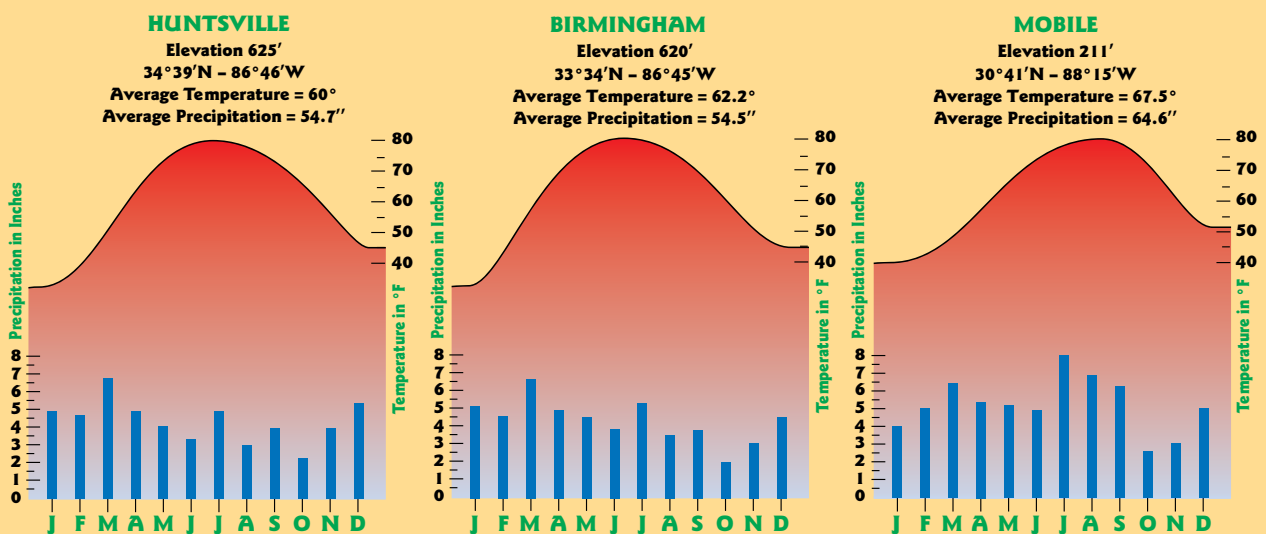


## Map 7 Average January and July Temperatures

**Map Skill:** Study the temperature maps. Compare the colors on the map to the key that shows the average temperatures for the month. Look at the July map. Why are temperatures in the northeast and north-central parts of the state cooler? Look at the January map. Where in Alabama would it be safe to plant orange trees that need warm weather all year long? Where would you most likely see snow?

Temperatures in Alabama can be very high or low at times. Temperatures have sometimes fallen below 0°F. Summer temperatures have risen above 103°F. Those extreme temperatures can sicken or even kill people.

## Figure 5 Temperatures and Precipitation for Huntsville, Birmingham, and Mobile





**Below:** *The weight of ice on branches and power lines can cause them to break.*

**Bottom:** *A winter scene on the Little Cahaba River. Snow is uncommon in Alabama and usually does not last very long.*



**Precipitation** is water in the form of rain, snow, sleet, or hail. It falls from clouds to the earth's surface. Because Alabama's temperatures are usually warm, most of its precipitation falls as rain. Some places in Alabama receive 50 to 60 inches of precipitation a year. That puts it in the top 10 among the states for precipitation amounts.

## Natural Hazards

Certain kinds of weather can cause harm and are called **natural hazards**. Natural hazards that occur in Alabama include ice storms, heavy snows, droughts, flash floods, thunderstorms, tornadoes, and hurricanes.

## Frozen Hazards

Ice storms occur when drops of rain fall on frozen surfaces. They spread out and freeze into layers of ice. The ice can become thick and heavy. Ice on roads or on bridges can cause accidents.

Snow is another frozen hazard. When just a few snowflakes fall from clouds, we call them flurries. When a large amount of snow falls, we call it a snowstorm. Most of the snow that falls on Alabama melts when it hits the ground. Both snow and ice have weight and can knock down trees and power lines.



### **Water—Too Much or Not Enough**

Water is necessary for life. But too much or too little water can cause big problems. A **drought** is a period of weeks or months with almost no rainfall. Too little water can mean lower crop yields and higher food prices.

Drought also increases the risk of fires. These fires can destroy wildlife habitat and homes. With less rainfall to fill up reservoirs, the supply of drinking water shrinks. Water shortages affect everyone at home, work, and school.

**Flash floods** can happen when there is heavy rainfall. Water in ditches and streams may rise very quickly. Then it spills over onto the land. It can knock people down when they try to walk in it. Even people in cars are in danger and can drown in the fast-moving water.



### **Thunderstorms**

Thunderstorms occur often in Alabama. Some bring heavy rains that cause flash floods. The biggest danger is from the lightning they produce. **Lightning** is electricity moving from cloud to cloud or from a cloud to Earth. Lightning strikes injure and kill people in Alabama.

Hailstones are small balls of ice that can even fall in summer thunderstorms. Hail can damage cars and roofs.



### **Tornadoes**

Tornadoes also begin in very bad thunderstorms. (A **tornado** is a storm with swirling winds and a funnel-shaped cloud.) Tornadoes are the most powerful and dangerous storms in Alabama. They form very quickly. People have just a short time to take action when there is a tornado warning. Tornadoes often form at night. There are fewer people listening to their televisions or radios then. This can mean that they miss the warnings.

A tornado's funnel-shaped cloud may reach all the way to the ground. Winds can move toward the funnel at speeds of over 300 miles per hour! Tornadoes destroy almost everything they touch. Loose objects blowing through the air are a big danger to people.

**Above:** A dry lake bed is a sure sign of drought. Recent droughts have threatened the water supplies for major cities like Atlanta, Georgia. **Below:** A supercell is a powerful thunderstorm. It can produce strong winds, torrential rainfall, and flash floods. It has a rotating updraft that can produce tornadoes.

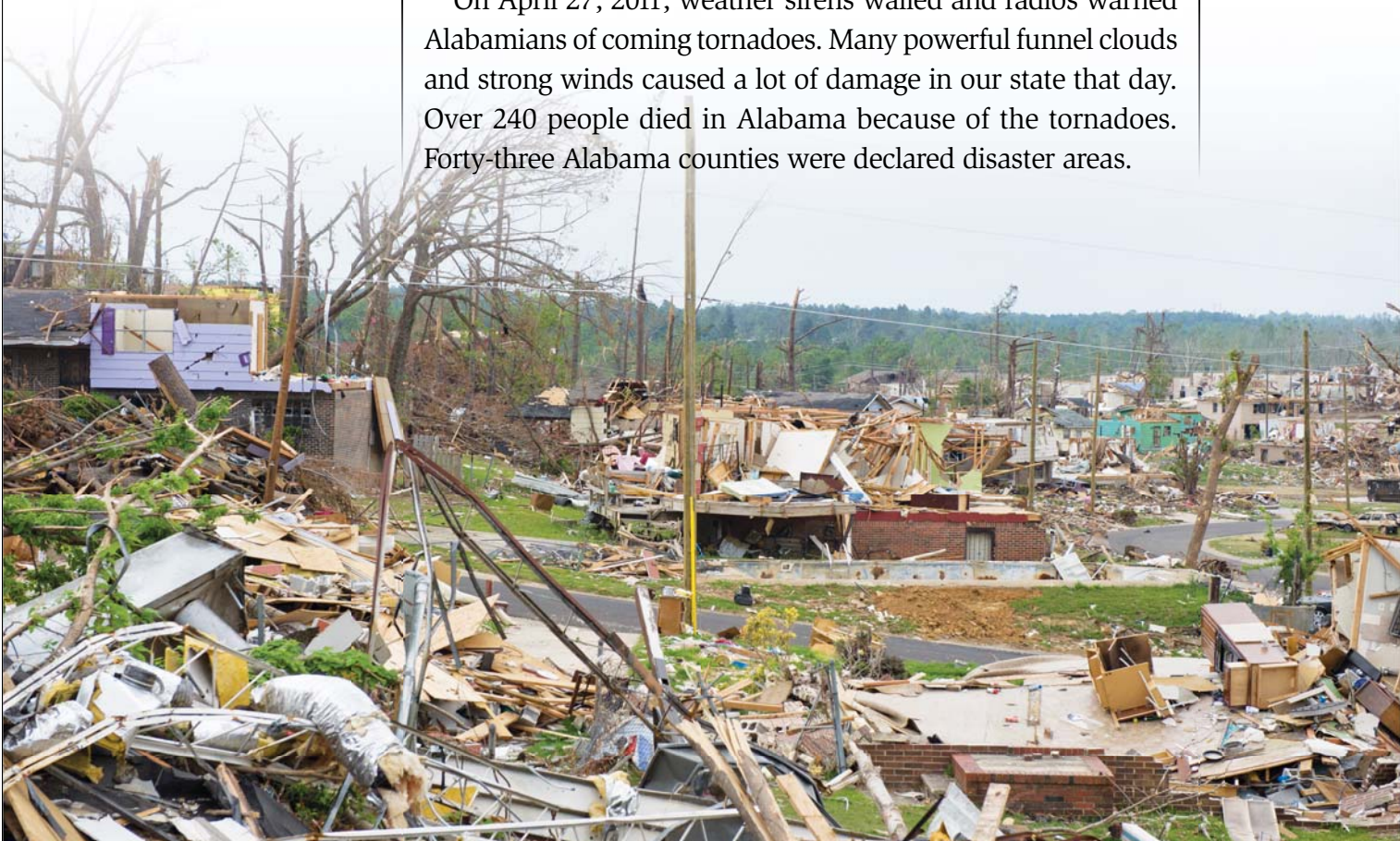
## Figure 6 Enhanced Fujita Tornado Intensity Scale

Rating	Miles/Hour	Expected Damage
EF0	65-85	Light: Loose debris
EF1	86-110	Moderate: Broken windows and doors
EF2	111-135	Considerable: Trees broken
EF3	136-165	Severe: Outer walls collapse
EF4	166-200	Devastating: Structure damage
EF5	Over 200	Total: Structure destroyed

In Alabama, there are two tornado seasons. Most tornadoes form between February and May. Tornadoes also form in late November and early December.

The National Weather Service gives watches and warnings for flash floods, thunderstorms, and tornadoes. Special weather radios are available to warn you in case bad weather is coming.

On April 27, 2011, weather sirens wailed and radios warned Alabamians of coming tornadoes. Many powerful funnel clouds and strong winds caused a lot of damage in our state that day. Over 240 people died in Alabama because of the tornadoes. Forty-three Alabama counties were declared disaster areas.



The tornado that hit Hackleburg was an EF-5. An EF-4 tornado hit the Tuscaloosa-Birmingham area. Those two storms ranked sixth and seventh in the deadliest tornadoes in United States history. The four counties with the highest death tolls were Tuscaloosa, DeKalb, Franklin, and Marion.

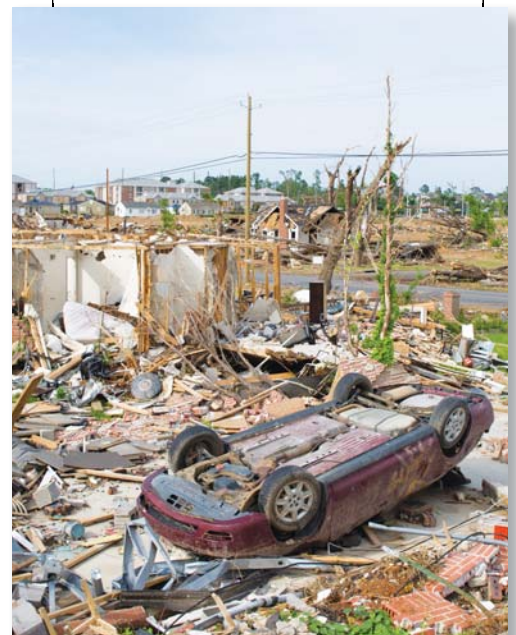
After the terrible storms, Alabamians came together to help each other clean up and rebuild. People from other states and the Federal Emergency Management Agency (FEMA) came to help too.

### **Hurricanes**

**Hurricanes** are powerful storms that form over warm seas. These circle-shaped storms can be 300 miles wide. Hurricane wind speeds can be over 200 miles per hour. But water causes most of the damage in a hurricane. Buildings and highways near the coast are often flooded or even destroyed.

Hurricane season lasts from June through November. The National Hurricane Center puts out watches and warnings about hurricanes. Because these storms move so slowly, people have time to evacuate low coastal areas. (**Evacuate** means to leave the area because of danger.)

The weather and climate of a place can change its history. Without enough rain, crops would not grow. Some crops, such as cotton, need a long growing season. Some plants, such as orange trees, need very warm temperatures.



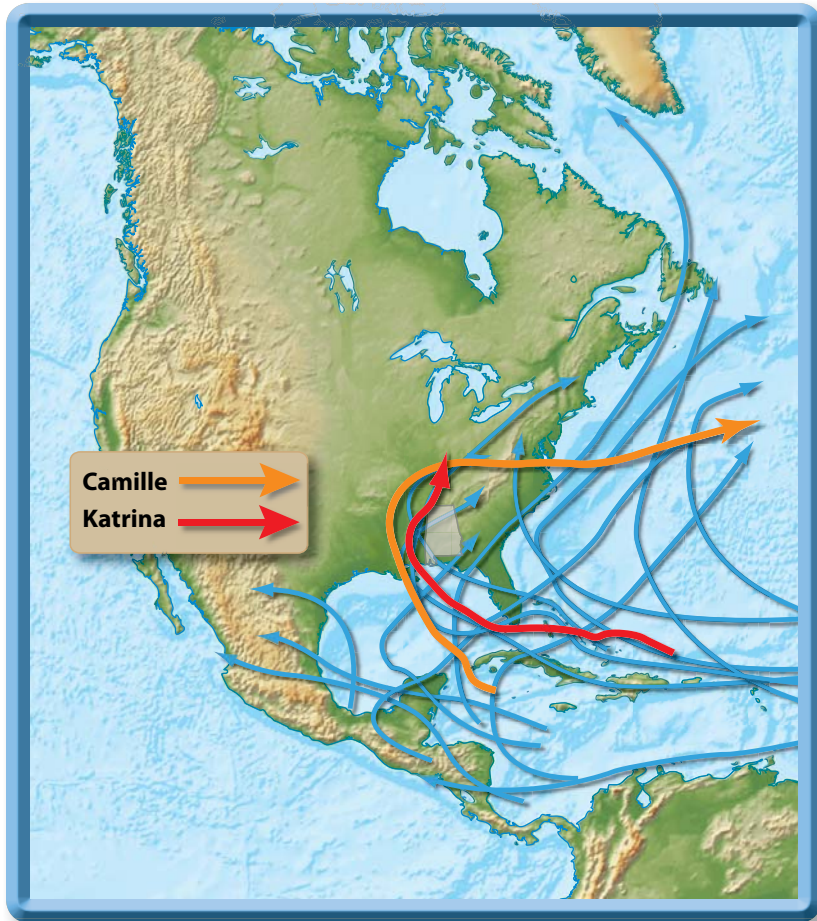
**Above: Tuscaloosa was badly damaged by a huge EF-4 tornado on April 27, 2011. The storm was so powerful that it traveled more than 60 miles north to Birmingham. It destroyed many neighborhoods there and the Smithdale Estates in Pratt City (below).**



## Map 8

### The Paths of Hurricanes

**Map Skill:** Study the paths of hurricanes. The number of hurricanes and their paths are different every year. On this map, how many hurricanes were a danger to Alabama?



## About Alabama

In 1997, Hurricane Danny (above) struck Alabama. It produced heavy rains that set the state's record rainfall for one day—32.52 inches.

Early settlers chose land that was good for farming. They grew crops that would do well on their land. But Alabama's weather sometimes made American Indians, explorers, and settlers change their plans. Droughts made crops die. Dry trees and grasses brought forest fires. Floods caused Alabama to move its center of government. Hurricanes made settlers in Mobile change their minds. The weather could be extreme: very cold or very hot. This made travel hard for explorers and settlers.

### Think It Through!

1. What is the difference between weather and climate?
2. Describe Alabama's subtropical or temperate climate.
3. Name three natural hazards.
4. In thunderstorms, what is the greatest danger?

# Spotlight on Nature

## Alabama Weather Extremes

Daily weather conditions can be extreme. The following tables show the highs and lows in Alabama's weather.

**Figure 7 Temperature and Precipitation Records**

Event	Value	Date	Location
Highest temperature	112°F	September 5, 1925	Centreville
Lowest temperature	-27°F	January 30, 1966	New Market
Most precipitation in 24 hours	32.52 inches	July 19-20, 1997	Dauphin Island
Most precipitation in one year	98.22 inches	1961	Citronelle

**Figure 8 Monthly Alabama Maximum/Minimum Temperatures**

Month	High	Year	Location	Low	Year	Location
January	88°F	1898	Mount Willing	-27°F	1966	New Market
February	89°F	1901	Livingston	-18°F	1905	Valley Head
March	94°F	1916	Evergreen	2°F	1993	Birmingham
April	98°F	1894	Union	19°F	1992	Valley Head
May	105°F	1964	Chatom	29°F	1976	Valley Head
June	109°F	1933	Brewton	35°F	1966	Valley Head
July	111°F	1930	Madison	41°F	1947	Valley Head
August	109°F	2000	Centreville	39°F	1968	Waterloo
September	112°F	1925	Centreville	29°F	1967	Valley Head
October	103°F	1954	Troy	19°F	1968	Waterloo
November	92°F	1922	Selma	-2°F	1950	Valley Head
December	88°F	1971	Livingston	-10°F	1983	Heflin

# Section 4

## Natural Vegetation and Wildlife



**Above:** DeSoto State Park is famous for its rhododendrons.

**Below:** Deciduous trees provide beautiful colors in the fall.

### As you read, look for

- types of vegetation in Alabama;
- types of animals in Alabama;
- terms: **natural vegetation**, **evergreen tree**, **deciduous tree**, **ecosystem**.

**Alabama's warm, wet climate creates a good environment for** plants. Before the first people ever arrived, the land was covered with a blanket of vegetation. Plants growing naturally in an area are called the **natural vegetation**.





## Types of Plants

Long ago, trees covered Alabama. Forests of evergreen trees grew across the southern two-thirds of the state. (**Evergreen trees** keep their leaves throughout the year.) Along the coast were live oaks and long-needle pines. Inland, the forests were mostly pines—longleaf, loblolly, slash, Virginia, pond, and sand. In the northern third of Alabama, winters are colder. Evergreen forests gradually gave way to **deciduous trees** (trees that lose their leaves each winter). The hills and mountains are covered with oak, poplar, gum, hickory, and dogwood trees. The leaves of these trees are very colorful in the fall. Most of Alabama is still covered in trees. The trees have been important to people living in Alabama since the very beginning. Today, both types of trees supply the state's very large timber industry.

Thousands of kinds of bushes, flowers, and grasses are also native to Alabama. Ponds, streams, sand dunes, and rocky ridges all support plants. A number of things decide which plants will grow in a place. Is the soil wet or dry? Is the land flat or hilly? Is the place sunny or shady?



**Top:** This is an ancient live oak on Dauphin Island. It has survived many hurricanes over the centuries. **Above:** Pine trees are often harvested for lumber.





*White-tailed deer (top) and tri-colored herons (above) are adapted to different ecosystems.*

## About Alabama

An unusual thing happens on eastern Mobile Bay. Sometimes late at night, crabs, fish, and shrimp come to the shore. People love to scoop up these seafood treats. It is called a *jubilee*.

## Ecosystems

All of this vegetation is part of Alabama's many ecosystems. An **ecosystem** includes living things such as plants, animals, and insects. It also includes nonliving things such as air, water, soil, and climate. Plants provide food and shelter for other living things in each ecosystem. Wildlife such as deer and squirrels eat acorns. Mice and rabbits eat grasses. Beetles and grubs live in decaying logs.

Alabama has more kinds of animals than many other states. This is because it has so many different kinds of ecosystems. Alabama is home to about 850 kinds of vertebrates (animals with backbones). Fish, birds, and deer are vertebrates. Nearly 300 kinds of freshwater fish live in the state's rivers, streams, and lakes. Invertebrates are animals without backbones, such as insects and snails. No one knows exactly how many thousands of kinds of invertebrates there are in the state.

Birds play a vital role in ecosystems. Some birds eat plant seeds and insects. These insects include many that are pests to farmers and gardeners. Hawks and other birds of prey eat rodents and small snakes.

All the living and nonliving parts of each ecosystem work together to keep it going. When something happens to any of the parts, the system may not be able to survive. As the story of Alabama is told, watch for how people changed ecosystems. Look for the links between people and the environment. These things are important parts of Alabama's history.

### Think It Through!

1. What is the difference between evergreen and deciduous trees?
2. How can Alabama have so many different types of animals?

# Section 5

## Culture

### As you read, look for

- what a culture is;
- how culture changes;
- term: **technology**.

**You now know about Alabama's** physical geography. Before you read about the people who first came to Alabama, it would be good to learn more about something called culture. In Chapter 1, we learned that it is the beliefs and customs of a group of people. Culture is that and much more.

Some things you were born with—such as the color of your eyes, hair, and skin. Some things you were taught—like what to eat, what to wear, and how to behave. You have also learned how to use things. You probably know how to ride a bicycle. You might have already learned to use a hammer, screwdriver, or computer. You have been taught things at home, at school, and in your place of worship. All of these things are now a part of your culture.

Every group or person you meet as you read the story of Alabama had a culture. Each culture had different ideas about how to dress and what foods were good to eat. They had ideas about how to make a living. They had tools and knew how to use them to do various jobs. These tools and skills are known



**Above:** Many people, like these Native Americans, go to great lengths to preserve the traditions of their culture.



as **technology**. The story of the state is the story of people from many different places. They came to Alabama at different times. They brought their cultures with them.

### **How Cultures Change**

When people from different cultures meet, they often share parts of their cultures. Most people in Alabama are not part of the Asian or Hispanic cultures, but they enjoy eating Chinese and Mexican food. Some of the ideas you have may be from another culture.

Sometimes your culture changes from one year to the next. Do you like the same songs this year that you did last year? What about the clothes you wear or the food you like to eat? Have your favorites changed? Think of all the new things you learned in the last year. You probably know how to do things now that you did not know how to do then. Watch for changes in the culture of Alabama's people through time.

Every person has a basic need for food, shelter, and clothing. Quite a few people are able to grow their own food. Some can even build a house and make clothing. Others get jobs so they can earn the money to buy food and clothes and pay for a place to live. Over time, ideas change as to how people make a living. Some of the earliest Alabamians hunted and fished. Later, many were farmers. Many people then left their farms to work in factories. Today, many Alabamians work in offices, stores, or restaurants.

### **Technology Changes Culture**

Technology changes too. In the past, people used simple tools. Now they may use power tools and machinery. People traveled by horse and wagon. Now they drive cars and SUVs (Sport Utility Vehicles) and ride in airplanes. Computers are used in homes, schools, and businesses today. But few people had even seen one 30 years ago.

Each way of making a living needs different resources. As the people of Alabama change jobs, they need different resources. Technology must have resources. The farmer needs good soil. Machinery usually uses electricity. Electricity is often made from coal or waterpower.

Alabama's many resources made it possible for people from different cultures to live well. People who wanted to farm found



flat land and good soil. Other people wanted to make things in factories. They found resources to turn into products such as making cloth out of cotton. The land also had the energy resources needed to run the factories.

As people came to Alabama, they began creating human environments. They named places and built houses. They formed villages, towns, and cities. People linked places with trails, roads, and railroads. They connected places with telegraph and telephone wires. People cut down trees to make space for farm fields and pastures. They even made places to play, such as golf courses and playgrounds.



*A hundred years ago, most people lived on farms, or in small towns like Burnt Corn (above). Now, the majority of people live in cities and large metropolitan areas like Birmingham (top).*

### **Think It Through!**

- 1. Name two things included in a culture.**
- 2. What is technology?**

# Chapter Review

## Summary

Alabama lies at the meeting point of five different land regions. The Coastal Plain covers the southern half of the state. The Piedmont is in east-central Alabama. Northwest of that is the mountainous Ridge and Valley region. The Appalachian Plateau lies northwest of the Ridge and Valley. The Interior Plateau (Highland Rim) is in northern Alabama.

The first settlers moved into Alabama to farm. They traveled to the Black Belt and the valleys of the Tennessee, Coosa, Tombigbee, and Alabama Rivers for the rich soils. The settlers moved into Alabama from the southeast on the Federal Road. Those from settlements farther north came through the valleys of the Ridge and Valley region. They traveled from Tennessee and Kentucky on the Huntsville Road.

Alabama has many mineral and energy resources. The energy resources are coal, oil, and natural gas. Mineral resources include iron ore, limestone, sandstone, and marble. The different types of soil determined the richness of the land. Settlers first moved to land where it was easy to grow crops. Later, miners, quarrymen, and others came to Alabama for its natural resources.

Alabama has a subtropical climate with four distinct seasons. The state gets a lot of precipitation. Natural hazards include ice storms, droughts, tornadoes, and hurricanes. The state has a long growing season and a good water supply. These qualities make it ideal for many types of plants. All of these plants give food and shelter to many different kinds of animals. The

climate, plants, animals, and landscapes form different kinds of ecosystems.

Everyone has a culture. Culture is all the things in your life. It is your clothes, language, religion, food, games, work, home, and so on. Cultures change one another, and they change over time. Alabama is the home of different cultures that make our state even more special.



## Remember

On a separate piece of paper, write the title for each group. Place each word or term from the Word Bank with like meanings in the group where it belongs. Add extra words or terms if you know them.

### Group Titles

Extreme weather  
Land regions

Water terms  
Wetland terms

### Word Bank

Appalachian Plateau  
Aquifer  
Coastal Plain  
Delta  
Drought  
Groundwater  
Hurricane

Interior Plateau  
Piedmont  
Ridge and Valley  
Salt marsh  
Surface water  
Tornado  
Waterway



## Reviewing the Facts

1. When people find a use for something natural, what is it called?
2. What is the difference between weather and climate?

3. How did the settlers choose which region to go to?
4. How are land regions divided?
5. What is the highest point in the state?
6. Why does Alabama have more kinds of animals than many other states?
7. What is natural vegetation?



### Using Critical Thinking Skills

1. Why was it an advantage for farmers to live near a river?
2. Why is a long growing season important?
3. What happens when something in an ecosystem changes? For example, what would happen if all the acorns that deer feed on disappeared?



### Making Decisions

1. The Little River Canyon is a lovely natural area. If someone wanted to build an amusement park in or near it, would you be for or against the plan?
2. What animal would you introduce into Alabama? Why? Can you think of any bad things that could happen if that animal lived wild in Alabama?
3. Cultures have differences in foods, languages, entertainment, clothes, art, and so on. If you could adopt parts of other cultures, what would they be?



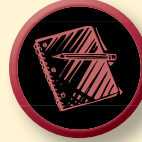
### Projects

1. Make a relief map of Alabama's natural land regions.
2. Design a PowerPoint presentation about early settlers. Explain one of the following: (a) how they came to Alabama, or (b) how they chose which area to settle in.



### Writing

Write a letter to someone who does not live in our state. In the letter, describe Alabama's natural environment. Tell the person about the state's regions, resources, and water. Explain how the landscape can be changed.



### Preparing for Tests

*Multiple Choice*—These questions are like those you may see on a test. Write your answers on a separate sheet of paper.

1. The northern part of Alabama is sometimes called the Highland Rim. What natural region is that?
  - A. Interior Plateau
  - B. Appalachian Plateau
  - C. Ridge and Valley
  - D. Coastal Plain
2. Why does Alabama have many more animals than many other states?
  - A. It is in the South.
  - B. It has evergreen trees.
  - C. It has many different ecosystems.
  - D. It has different cultures.



### Using Technology

You are going to find out how much rainfall your area received recently. Using the Internet, go to the website of the Alabama Office of State Climatology (AOSC) [nsstc.uah.edu/aosc](http://nsstc.uah.edu/aosc).

Look under Moisture Indices and find the Lawn and Garden Index—Alabama. This map shows how much precipitation the state received in the last week. Find the district where you live and look at the map key. How much rain did your area receive in the week shown?