

La Salle's claim of Louisiana showed how strongly the French wanted to control the center of North America. This strategy would connect the colony of New France, known today as Canada, with Louisiana.

Part of the lands that La Salle claimed for France would become the American state of Louisiana in 1812. The **landforms** (any natural features of Earth's surface), the water, and the natural resources would continue to support the people who settled within Louisiana's changing borders.

This chapter will focus on the geography of Louisiana and will highlight the state's five natural regions, various and important waterways, and its climate. It will also explore the relationship between its people and their **environment** (surroundings).

**Top:** This 1844 painting by Theodore Gudin is titled *La Salle's Expedition to Louisiana in 1684*. The ship *La Belle* is on the left, *Le Joly* is in the middle, and *L'Aimable* is on the right.  
**Middle:** Fairview-Riverside State Park near Madisonville is in the flatwoods area of the Terraces region.

## Engagement: Vocabulary Mix, Match, and Freeze

This is an effective vocabulary review activity for the close of the class period. Distribute two blank index cards to each student. Assign one vocabulary term to each student. Instruct students to neatly print the term on one card and the definition on the other. Collect the cards and select the specific terms (be sure to include both the "term" card and the "definition" card) you want to include in this class period's activity. Then proceed as follows:

- **Mix:** Shuffle the selected cards and randomly redistribute the cards—one card to each of your students.
- **Match:** On a given signal, have the students mingle and find their match.
- **Freeze:** When students find their match, they should link arm-in-arm and freeze.
- The student pairs should then each give their word and definition, with the class verifying the accuracy of the match.
- Students with a term or definition card that is a better match may offer a challenge.
- **Optional:** Credit students with successful matches and/or challenges.

**NOTE:** Websites appear, disappear, and change addresses constantly. The Internet addresses included throughout this program were operative when the text was published.

### Notes

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## Section 1

## Location

## As you read, look for

- ▶ the difference between absolute location and relative location;
- ▶ the absolute location of Louisiana expressed in terms of latitude and longitude;
- ▶ how Louisiana's boundaries are formed;
- ▶ terms: **absolute location, relative location, latitude, equator, longitude, prime meridian, time zone, International Date Line.**

As you study this textbook, you are probably located in a classroom or at home. But how would a geographer answer a question about your location? He or she would talk about your location in absolute or relative terms. **Absolute location** refers to a specific spot on planet Earth. **Relative location** explains where a place is in relation to another place or places. For example, the absolute location of Louisiana's State Capitol is 900 North 3rd Street in Baton Rouge. The Capitol's relative location is at the north end of a complex of buildings called Capitol Park.

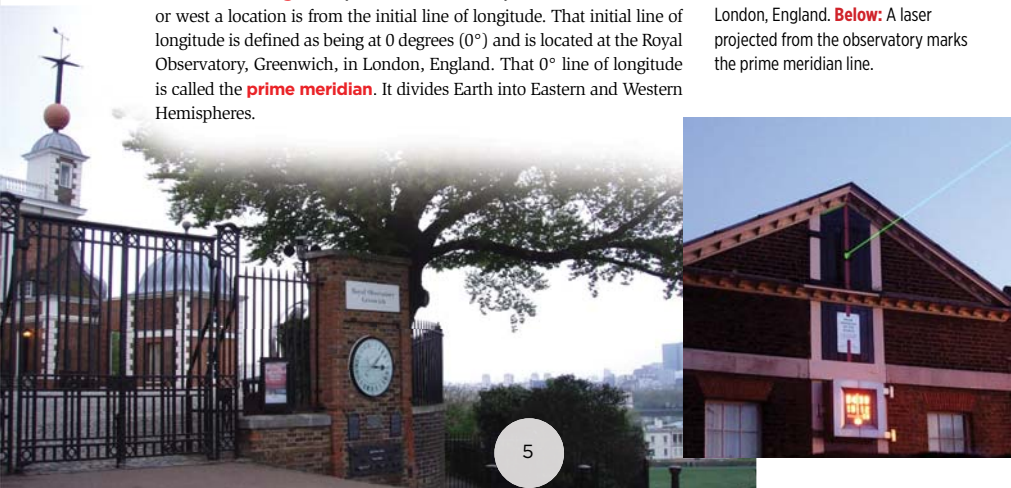
## Louisiana in the United States

Absolute location can also be expressed using a system of lines of latitude and longitude. **Latitude** (also called *parallels*) measures a location's distance north or south of the equator. The **equator** is an imaginary line on Earth's surface that is everywhere equally distant from the North and South Poles. **Longitude** (also called *meridians*) measures how far east or west a location is from the initial line of longitude. That initial line of longitude is defined as being at 0 degrees (0°) and is located at the Royal Observatory, Greenwich, in London, England. That 0° line of longitude is called the **prime meridian**. It divides Earth into Eastern and Western Hemispheres.

## Lagniappe

The word *lagniappe* is used almost exclusively in Louisiana and Mississippi. It means "something extra," especially a little bonus given by a shopkeeper to a customer. In this textbook, the Lagniappe will be a little extra bit of information.

**Left:** The prime meridian is based at the Royal Observatory, Greenwich, in London, England. **Below:** A laser projected from the observatory marks the prime meridian line.



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## Social Studies Standard 3—Geography Skills

Students develop spatial understanding through the study of location, distance, direction, pattern, shape, and arrangement.

**8.3.1** Locate and describe the physical and political features of Louisiana

**8.3.2** Use maps, charts, and diagrams to ask and answer questions about Louisiana's geographic features

**8.3.3** Apply knowledge of geography skills and terms to:

- create maps and diagrams
- plot latitude and longitudinal coordinates
- read and interpret a map
- use a map to compare Louisiana's time zone in relation to time zones around the world

## Section 1

## Location

## INTRODUCE

## Outline

- A. Louisiana in the United States
- B. Boundaries

## Materials

Textbook, pages 5-8

Student Workbook

Teacher Tech DVD

Lesson Plan

Guided Reading, 1-1

[mystatehistory.com](http://mystatehistory.com)

Online Textbook

## Discussion

Project the five themes of geography on a screen or Smart Board:

**Location:** the position (absolute or relative) of people and things on Earth's surface.

**Place:** a name given to a location because of its unique or distinctive characteristics.

**Region:** an area on Earth's surface that displays similar characteristics.

**Movement:** the mobility of people, goods, and ideas across Earth's surface.

**Human-Environment Interaction:** the relationship between human settlement and changes to the natural environment.

Have students read the opening paragraph of Section 1, and write a response to these questions: Which of the five themes is the focus of this passage? (*location*) Which sentence in the text best supports your answer?



Section 1: Location



Using the system of latitude and longitude, Louisiana's absolute location is between 29 degrees north (29° N) and 33 degrees north (33° N) latitude and between 89 degrees west (89° W) and 94 degrees west (94° W) longitude.

**Boundaries**

The system of latitude and longitude is also used to mark boundaries. Some of Louisiana's boundaries are defined using this system. The boundary that runs from west to east between Louisiana and Mississippi is located near the 31st parallel north (31° N latitude), while the boundary that runs from west to east between Louisiana and Arkansas is set near the 33rd parallel north (33° N latitude). The 94th meridian west (94° W longitude) separates Louisiana and Texas at our state's most westerly point.

Waterways form some of Louisiana's other boundaries. The Mississippi River defines the upper eastern boundary between Louisiana and Mississippi. The Pearl River defines the lower eastern boundary between the two states. The Gulf of Mexico marks Louisiana's southern boundary. The Sabine River and the Toledo Bend Reservoir separate Louisiana from Texas on the state's southwestern border.

**MAP 1.2**

**Louisiana in the United States**

**Map Skill:** What four states lie directly north of Louisiana?



**Above:** A passport is required when U.S. citizens enter or leave the country but not required when they travel within the United States.

**Answer to Map 1.2 Skill**

Arkansas, Missouri, Iowa, and Minnesota

**Using Geography Skills: Region**

Louisiana is located in the southeastern United States. Ask students to look at Map 1.2 and identify the other states in this region. (*Alabama, Arkansas, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee*) Ask students: What characteristics do these states (including Louisiana) have in common?

**Using Geography Skills: Physical and Political Geography**

Ask students: How many states border the Mississippi River? (*Ten: Arkansas, Illinois, Iowa, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, Tennessee, and Wisconsin*)

**Using Geography Skills: Physical and Political Geography**

Project a map of Louisiana's parishes on a screen or Smart Board. Ask students: Which parishes share a political border with the state of Mississippi and are also bordered by the Mississippi River? (*from north to south: East Carroll, Madison, Tensas, and Concordia Parishes*)

**Notes**

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**Higher Level Thinking**

**Project a political geography map of Louisiana on a screen or Smart Board. Ask students: In what parish is the geographical center of Louisiana located? (*Avoyelles Parish, three miles southeast of Marksville*) Next, have students estimate the coordinates of this location. (*Longitude: 92° 32.2' W; Latitude: 30° 58.1' N*)**



## Section 2

## Natural Regions

## As you read, look for

- ▶ the range in elevation in Louisiana;
- ▶ characteristics of Louisiana's five natural regions;
- ▶ the plants, animals, and birds that thrive in the different types of terrain;
- ▶ terms: **physical geography**, **elevation**, **relief**, **alluvial soil**, **estuary**, **loess soil**, **erosion**, **marsh**, **salt dome**, **geologist**, **uplift**.

Because people think of alligators, swamps, and Spanish moss when they think about Louisiana, the diversity of its natural environment can surprise residents and visitors alike. You can explore the water and wildlife of a swamp in an airboat or paddle along slowly in a canoe or kayak. In other parts of the state, you might see a flat prairie covered in grasses and wildflowers, walk through quiet pine forests on beds of fallen needles, or even scramble to the top of a rocky hill that is known—mistakenly—as a mountain.

**Physical geography** is concerned with observing these differences in the terrain and character of the land in a given place or region. Geographers identify, name, and analyze the regions they study. Dividing an area into regions makes it easier to understand. Natural regions are identified and classified according to characteristics such as relief, soil type, vegetation, and climate.

Geographers have divided the United States into eight natural regions. Louisiana is located in the western portion of the Gulf Coastal Plain. The name Gulf Coastal Plain indicates that it sits near the Gulf of Mexico and has a relatively low elevation in comparison to other regions in the United States. **Elevation** refers to the height of a place above sea level. **Relief** is how geographers describe the difference between the highest and lowest levels in a given area. Elevations in Louisiana range from about 8 feet below sea level in New Orleans to a height of 535 feet above sea level at Driskill Mountain in Bienville Parish. Although Driskill is called a mountain, geographers classify it as a hill. For them, a landform can only be called a mountain when the elevation from its base to its *summit* (highest point) exceeds 2,000 feet.



**Left:** A view of the Mississippi River in Louisiana, with its wide riverbed and natural surroundings.

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## Section 2

## Natural Regions

## INTRODUCE

## Outline

- A. Mississippi Floodplain Region
- B. Red River Valley Region
- C. Terraces Region
- D. Marsh Region
- E. Hills Region

## Materials

Textbook, pages 9-18

Student Workbook

Teacher Tech DVD

Lesson Plan

Guided Reading, 1-2

mystatehistory.com

Online Textbook

## Bellringer

Project the definition of *physical geography* onto a screen or Smart Board as found on this page. Ask students to list three things they already know about Louisiana's physical geography.

Using Geography Skills:  
Political Geography

Project a parish map of Louisiana onto a screen or Smart Board. Ask students to locate Bienville Parish.

## Social Studies Standard 3—Geography Skills

See page T5

## Social Studies Standard 5—Environment

Students analyze the effects of the environment on people and places in Louisiana.

**8.5.1** Describe how natural phenomena impact the physical environment of Louisiana

**8.5.2** Analyze and predict consequences of environment modifications on Louisiana and its inhabitants







## Discussion

Ask students to identify other well-known river deltas from around the world. (*the Amazon and the Nile*)

## Higher Level Thinking

Ask students: Why do settlements often form along river valleys? (Student answers might include these: *A river provides food, water, irrigation for crops, a natural defense, transportation routes, and opportunities for trade.*) What is a drawback to settling along a river? (*flooding*)

## Higher Level Thinking

Share with your students this quote about Louisiana by Harnett T. Kane: "It is a place that seems unable to make up its mind whether it will be earth or water, so it compromises." Ask students: Why does this quote seem especially true of Plaquemines Parish in the passes area? (*Plaquemines Parish is divided in half [east and west] by the Mississippi River; the Gulf of Mexico borders the parish to the south and east and Breton Sound borders the parish to the north.*)

## More Map Skills

On a map of the United States, have students trace the Red River back to its origins as the North Fork and Prairie Dog Town Fork. Through which states does it flow before entering Louisiana? (*Oklahoma, Texas, and Arkansas*) Which two states have the Red River as a border? (*Oklahoma and Texas*)

## Did You Know?

The Red River is 1,360 miles in length.

## The Passes

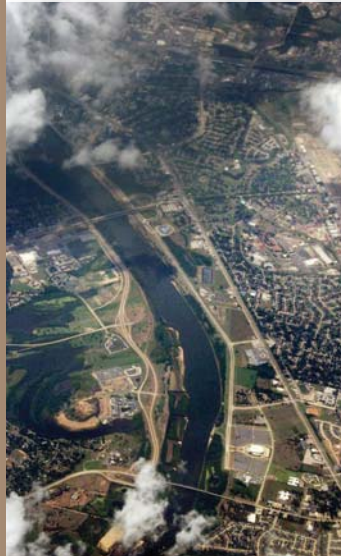
The geological name for the paths the Mississippi River takes as it flows into the Gulf of Mexico is the passes. This area is also called a delta because the mouth of the river is triangle-shaped, like the Greek alphabet letter *delta* ( $\Delta$ ). On a map, the passes can resemble a hand with fingers spread wide. Because this area also looks from the air like the foot of a bird, the passes are also called the "birdfoot delta" of the Mississippi River.

At the **estuary** (the place where the river meets the sea), the water changes from freshwater to saltwater. Here the land and the water continually collide and the landforms shift. As they do, the passes themselves change. The vegetation in the passes is dominated by marsh grasses. They have shallow roots and can survive in the unstable *ecosystem* (everything that exists in a particular environment).

## Red River Valley Region

The Red River Valley region borders the Red River as it flows from the northwestern corner of the state to central Louisiana. The region is like a smaller version of the Mississippi Floodplain. It has a single stream with natural levees and lower-lying areas behind them. Both the elevation and relief are low.

Like the Red River, the region gets its name from the rich red soil that the river carries from Oklahoma and Texas into Arkansas and, finally, into Louisiana. When the river flooded, it deposited red-colored soil along the river's banks. Caddo Indians lived in this area before Europeans arrived. American settlement of the area occurred later than in other parts of the state because the river was blocked in places and difficult to navigate. Once its course was cleared, small farmers moved into the area. Later, larger cotton plantations developed. Today the Red River flows between the urban areas of Shreveport and Bossier City and continues southeast through Alexandria.



**Above:** An aerial view of the Red River between Shreveport and Bossier City.  
**Right:** Five bridges span the Red River between Shreveport and Bossier City.



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**The Flatwoods**

Like the prairies region, the flatwoods areas are very flat. Unlike the prairies, they are covered in trees. The soil in the flatwoods drains better than in the prairies, and this allows the growth of trees. These areas are dominated by a mixture of wire grass, palmetto, and forests of hardwood trees and many varieties of pine. In fact, early settlers called the flatwoods region the “piney woods.” Today there are still many pine forests in this area.



**Marsh Region**

The Marsh region lies along Louisiana’s border with the Gulf of Mexico. A **marsh** is found only along a coast and is the transition area between land and

water. In Louisiana, the Marsh region is a wet, treeless prairie dominated by water and grasses. Louisiana has about 2.5 million acres of marsh.

Most commonly, the marsh is covered by grasses that have shallow roots in the muck and peat soil. The water and abundant rainfall feed the plants. In turn, the marsh serves as an important home for migrating birds each year. Naturalists who count the birds as they move through the Marsh region in the spring and fall have identified more than 180 species, ranging from tiny hummingbirds to large waterfowl like Canada geese.



**Top:** This freshwater marsh is located in the Joyce Wildlife Management Area near Ponchatoula. **Bottom:** A freshwater marsh in Lafourche Parish.

**In Other Words**

**muck**—wet dirt or mud

**peat**—brown, soil-like material consisting of partly decomposed vegetable matter

**Using the Internet**

Additional information about Louisiana coastal wetlands can be found at this website: [www.americaswetlandresources.com/index.html](http://www.americaswetlandresources.com/index.html).

**Engagement**

Ask students to research the various fauna (animals) that inhabit Louisiana’s marshlands. This research might include a physical description of the animal, its habitat, diet, size, and life span. Next, have each student create a poster that visually illustrates and summarizes his/her research findings while also including a sketch and/or image of the animal.

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**In Other Words**

**mangrove**—a tree that grows in swamps or shallow saltwater, which has roots that grow from its branches

**Using the Internet**

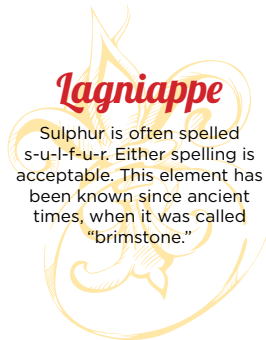
Share with your students this video (6:49) on “Rebuilding Coastal Louisiana,” as found at this website: <http://lacoast.gov/new/Ed/Videos.aspx>.

**Using Photographs and Illustrations**

Have students search the Internet for different pictures of the Tricolored Heron, including the famous John J. Audubon print called *Louisiana Heron* (which was actually painted in the Florida Keys). Ask students: Why do you think the name was changed from Louisiana Heron to Tricolored Heron? (*The bird is found in many more places than just Louisiana, so “tricolored” is a more accurate description.*) What are the three colors on the Tricolored (three-colored) Heron? (*The bird is mostly a grayish blue, with a white belly and a reddish patch on its back.*)

**Using the Internet**

Share with your students this Discovery Channel video (5:01) on the making of Tabasco Sauce on Avery Island, as found at this website: [www.wimp.com/tabascosauce/](http://www.wimp.com/tabascosauce/).



**Salt Marsh**

The water in the Marsh region changes the closer it gets to the ocean. The part of the region where salty ocean water and freshwater meet is called the salt marsh. Plants that can thrive in its *brackish* water (a mixture of saltwater and freshwater) include salt grass, cord grass, and various species of mangrove.

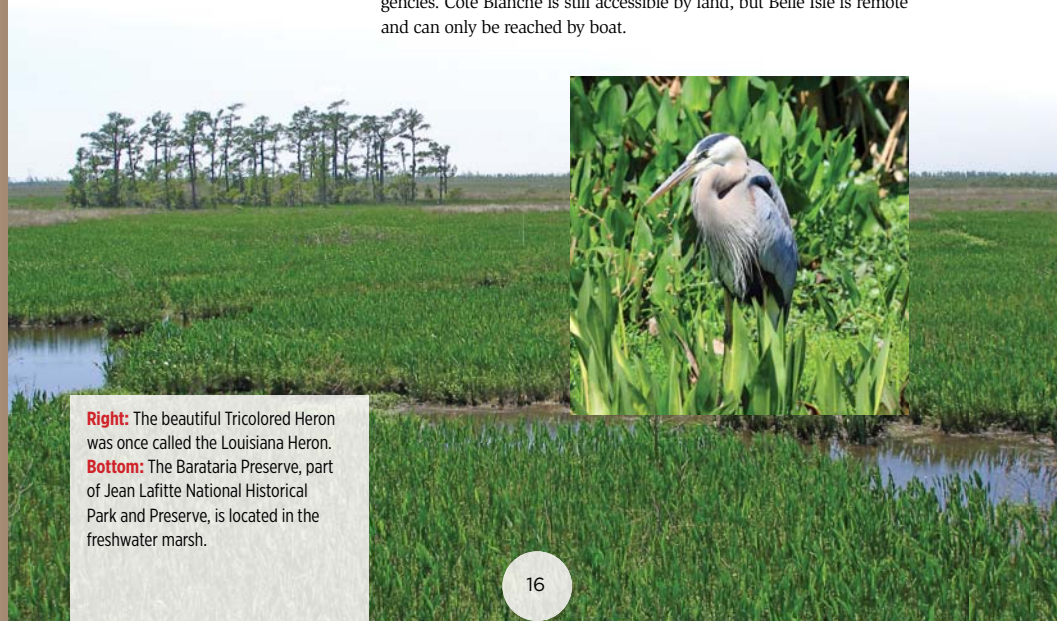
**Freshwater Marsh**

The freshwater marsh supports different species of plants. In this more inland area of the marsh, plants like iris and cattail thrive. When saltwater enters a freshwater marsh, it kills the freshwater vegetation. This process, called *saltwater incursion*, can threaten freshwater ecosystems and shrink this part of the Marsh region’s ecosystem.

**Salt Domes**

**Salt domes** are geological formations found in Louisiana’s salt marsh. Salt domes are covered by layers of rock that, under great pressure, have folded upward, rising above the surrounding marsh in formations that look like domes. Inside, salt domes contain not just salt but also other valuable minerals like sulphur and petroleum. The five largest salt domes are called the Five Islands because they rise above the surrounding Marsh region. They are Avery Island, Weeks Island, Cote Blanche, Belle Isle, and Jefferson Island.

Avery Island is best known as the home of the Louisiana pepper sauce called Tabasco. Weeks Island is home to a Strategic Petroleum Reserve maintained by the U.S. Department of Energy for use in case of emergencies. Cote Blanche is still accessible by land, but Belle Isle is remote and can only be reached by boat.



**Right:** The beautiful Tricolored Heron was once called the Louisiana Heron.  
**Bottom:** The Barataria Preserve, part of Jean Lafitte National Historical Park and Preserve, is located in the freshwater marsh.

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# Special FEATURE

## The Amazing, Disappearing Lake Peigneur

Picture in your head a kitchen sink filled with water. Imagine pulling the plug in the sink and watching the water create a whirlpool as it drains. What if the sink you pictured was a lake instead? Hard to imagine, isn't it? But something like this actually happened in Lake Peigneur in Iberia Parish!

Until 1980, Lake Peigneur was only eleven feet deep and was home to oil drilling rigs and underground salt mines. Fishermen caught fish there, and others just enjoyed the view. On November 21, 1980, however, things changed. An oil rig drill got stuck deep below the lake's bottom. As workers tried to free the drill, a large whirlpool began to grow around the spot where the drill was stuck. The whirlpool eventually sucked in the rig along with eleven barges! Luckily, the men on the rig evacuated in time.

As it turns out, the oil rig workers had drilled in the wrong location by mistake. They bored a hole into the top of an underground salt dome. The water eroded the salt walls, which caused the whirlpool to develop in the lake. Over 3.5 billion gallons of water disappeared into the whirlpool in just three hours. By following an established evacuation plan and helping each other, the fifty men who were working 1,500 feet underground in the flooded salt mine reached the surface safely.

You might be surprised to find out that Lake Peigneur still has water in it. Saltwater from the Delcambre Canal washed into the empty lake basin, creating a 1,300-foot-deep lake over the course of two days. As the lake refilled, there was another surprise. Nine of the eleven lost barges popped to the surface! How do you think this kind of disaster could be avoided in the future?



**Above:** This chimney is all that remains of a house that fell into Lake Peigneur when sixty-five acres of land were lost to the lake.

### Using the Internet

A video (9:54) detailing the cause of the Lake Peigneur disaster, including news footage, can be found at this website: [www.youtube.com/watch?v=ddlrGkeOzsl](http://www.youtube.com/watch?v=ddlrGkeOzsl).

### Making a Storyboard

Ask students to create a storyboard telling the sequence of events in the Lake Peigneur disaster from beginning to end. A sample storyboard template can be found at this website: [www.bbc.co.uk/northernireland/myplacemyspace/downloads/promote-your-day-out/storyboard-template.pdf](http://www.bbc.co.uk/northernireland/myplacemyspace/downloads/promote-your-day-out/storyboard-template.pdf).

### More Map Skills

Encourage students to find the location of Lake Peigneur on a large-scale map of Louisiana. They have already read that it is located in Iberia Parish. Here are further hints: It is located 1.2 miles north of Delcambre and 9.1 miles west of New Iberia near the northernmost tip of Vermilion Bay.

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## Using Reading Skills: Summarizing

Instruct students to read about the flatwoods and the Hills region. Then ask them to complete this 3-2-1 prompt:

### Identify:

- 3 differences between the flatwoods and the Hills region.
- 2 similarities between the two areas.
- 1 question I still have.

## ASSESS

### Answers to “Reviewing the Section”

1. **Alluvial soil** is soil that is made up of sediment carried by a river and deposited along its banks. A **marsh** is an area found along a coast and is the transition area between land and water. A **salt dome** is a geological formation found in Louisiana's salt marsh. Salt domes are covered by layers of rock that, under great pressure, have folded upward, rising above the surrounding Marsh region in domelike formations. Inside, they contain salt, sulphur, and petroleum.

2. The highest point in Louisiana is Driskill Mountain at 535 feet. It is located in the Hills region in Bienville Parish.

3. The passes are the paths the Mississippi River takes as it flows into the Gulf of Mexico. This area is called a delta because the mouth of the river is triangle-shaped, like the Greek alphabet letter *delta* ( $\Delta$ ).

### Hills Region

The Hills region covers much of northern Louisiana and also a smaller area in southeastern Louisiana. It is the highest region and has the roughest terrain. **Geologists** (scientists who study the origin, history, and structure of Earth) classify the region by focusing on its rock formations.

A major part of the Hills is a raised area of rock called the Sabine Uplift and also the Dolet Hills. An **uplift** is caused when rock formations press against each other and fold upward. As erosion wore down portions of the uplifts, ridges were formed. The resulting ridges are called wolds.

The Kisatchie Wold is located in the Kisatchie area of northwest Louisiana. It is home to the highest point in the state, the 535-foot Driskill Mountain, located in Bienville Parish.

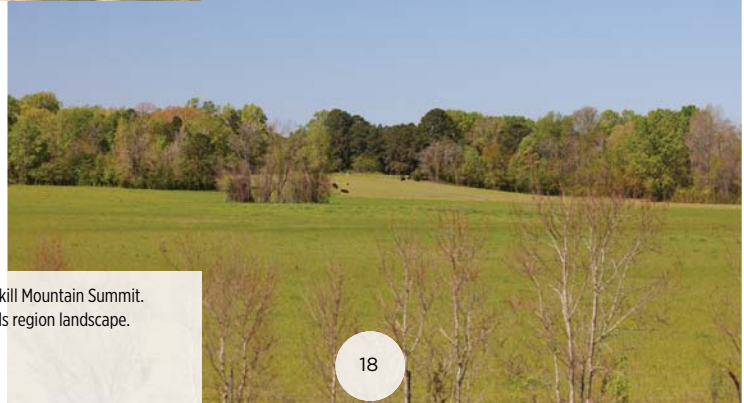
The soil that dominates in the Hills region is red in color because it is high in iron. Pine trees are among the few crops that grow well in this soil, and much of the region is now planted in pine tree farms. Even the pines that grow naturally dominate the landscape and crowd out other ground plants.

### Reviewing the Section

1. Define in sentence form: alluvial soil, marsh, salt dome.
2. What is the highest point in Louisiana? What is its elevation? In which natural region and parish is it located?
3. What are the passes? Why is this area also called a delta?



Above: Driskill Mountain Summit.  
Bottom: Hills region landscape.



### Did You Know?

**The Kisatchie National Forest is the only national forest in the Pelican State. It is located in the Hills region and covers more than 604,000 acres spread across seven parishes. The name “Kisatchie” is derived from a tribe of Kichai Indians who called themselves *Kitsatchie*. There will be more information about it in the Special Feature on page 38.**

## Section 3

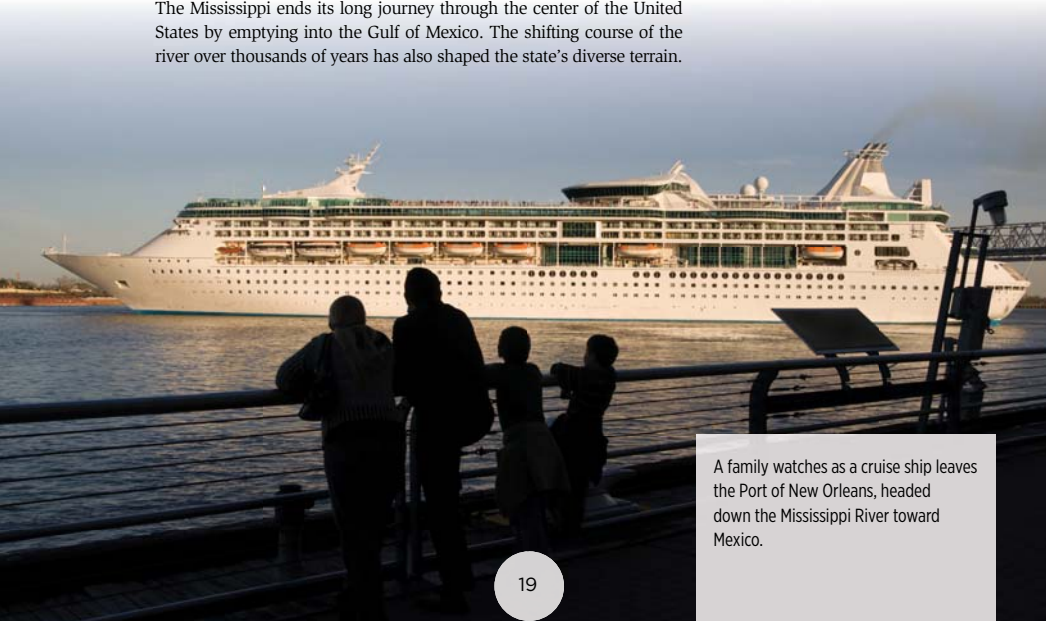
# Waterways

### As you read, look for

- ▶ the importance of diverse waterways in our state's history;
- ▶ the major rivers in Louisiana;
- ▶ the many different natural and man-made lakes that dot our landscape;
- ▶ the special significance of bayous for our state;
- ▶ terms: **navigable**, **drainage basin**, **sediment**, **cutoff lake**, **raft lake**, **marsh lake**, **bayou**.

Louisiana has nearly five thousand miles of navigable rivers, bayous, creeks, and canals. **Navigable** means that water is deep enough for safe travel by boat. These different types of waterways are the state's dominant physical feature. The locations and physical characteristics of these bodies of water can also help us understand the state's history, its development, and how waterways have always served as central routes for both trade and transportation.

The search for the great continent-long river that we know today as the Mississippi is one of the reasons explorers like La Salle were drawn here. The Mississippi ends its long journey through the center of the United States by emptying into the Gulf of Mexico. The shifting course of the river over thousands of years has also shaped the state's diverse terrain.



A family watches as a cruise ship leaves the Port of New Orleans, headed down the Mississippi River toward Mexico.

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### Social Studies Standard 3—Geography Skills

Students develop spatial understanding through the study of location, distance, direction, pattern, shape, and arrangement.

**8.3.1** Locate and describe the physical and political features of Louisiana

**8.3.2** Use maps, charts, and diagrams to ask and answer questions about Louisiana's geographic features

**8.3.3** Apply knowledge of geography skills and terms to:

- create maps and diagrams
- plot latitude and longitudinal coordinates
- read and interpret a map
- use a map to compare Louisiana's time zone in relation to time zones around the world

## Section 3

# Waterways

## INTRODUCE

### Outline

- A. Rivers
- B. Lakes
- C. Bayous

### Materials

Textbook, pages 19-24

Student Workbook

Teacher Tech DVD

Lesson Plan

Guided Reading, 1-3

[mystatehistory.com](http://mystatehistory.com)

Online Textbook

### Bellringer

Challenge your class to identify the five longest rivers that flow through Louisiana. (*Mississippi River, 2,320 miles; Red River, 1,360 miles; Ouachita River, 548 miles; Sabine River, 510 miles; Pearl River, 444 miles*)

**Answer to Map 1.6 Skill**

Tangipahoa River

**More Map Skills**

Have students go to [www.nps.gov/miss/riverfacts.htm](http://www.nps.gov/miss/riverfacts.htm) to find a map of the Mississippi River drainage basin. Compare this map to an outline map of North America that contains the names of the provinces and states. Have students name the two Canadian provinces and thirty-one states that are included in the drainage basin in full or in part. (Canadian provinces: *Alberta and Saskatchewan*; States: *AL, AR, CO, GA, IA, ID, IL, IN, KS, KY, LA, MD, MN, MO, MS, MT, NC, ND, NE, NM, NY, OH, OK, PA, SD, TN, TX, VA, WV, WI, WY*)

**Did You Know?**

On July 4, 2002, a man named Martin Strel, from the country of Slovenia in Europe, set out to be the first person to swim the entire Mississippi River. On September 10, 2002, he reached the point where the Mississippi flows into the Gulf of Mexico. He had swum the river's 2,320-mile length in sixty-eight days.



**MAP 1.6**  
**Louisiana's Rivers and Lakes**  
**Map Skill:** What river flows directly into Lake Pontchartrain?

**Rivers**

The state's most important river was given many names before it became known as the Mississippi. The Native American Algonquin tribe named it *Messipi*, meaning the "great river" in their language. The first Spanish explorers in the region called it *Rio del Espiritu Santo*, which means "river of the Holy Spirit." The French explorer La Salle called it the River Louis.

The Mississippi River's drainage basin covers more than 1,245,000 square miles and includes all or part of thirty-one states and two Canadian provinces. A **drainage basin** is an area of land that drains into **tributaries** (smaller rivers and streams) and eventually into larger rivers.

**Notes**

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## Review

Project a map of Louisiana's lakes and rivers on a screen or Smart Board. One of these maps can be found at this website: <http://geology.com/lakes-rivers-water/louisiana.shtml>. Also, have students review the subsection on "Lakes." Then, instruct students to create a table with six rows and six columns. Instruct students to list down the far left column the names of five Louisiana lakes (they selected or you identified), as described in this subsection. Next, across the top row at the top of each column, have students list a separate category (e.g., Freshwater/Brackish, Geographic Location, Surrounding Parishes, Tributaries, and Type of Lake). Finally, instruct students to fill in the table.

## ASSESS

### Answers to "Reviewing the Section"

- 1. Navigable** means that water is deep enough to travel by boat. A **drainage basin** is an area of land that drains into tributaries and eventually into larger rivers. **Sediment** is material that settles to the bottom of a liquid.
- 2.** They are the Mississippi; the *Messipi*, meaning the "great river"; the *Rio del Espiritu Santo*, meaning "River of the Holy Spirit"; and the River Louis.
- 3.** Possible answers are as follows: cutoff lake—Cane River Lake, False River, Lake Bruin, and Larto Lake; raft lake—Caddo Lake and Lake Bistineau; marsh lake—White Lake, Grand Lake, and Calcasieu Lake.



Lakes created when huge logjams blocked the flow of a river are called **raft lakes**. A raft created by masses of logs, tree trunks, and other debris could literally block the flow of a river. The water would then overflow into nearby swamps, forming so-called raft lakes. Caddo Lake in Caddo Parish and Lake Bistineau located in Bossier and Webster Parishes are raft lakes.

**Marsh lakes** are created behind low groups of ridges located in the marshlands that border Louisiana's Gulf Coast. These ridges rise only slightly above the marsh, but they are dry enough to support the growth of live oak trees along their tops. *Chenier* means "place of oaks" in French, and this is where the ridges get their name. The cheniers trap freshwater from the overflow of nearby rivers headed toward the Gulf. The water then collects behind the cheniers, creating lakes. The water remains fresh because the cheniers block the incoming saltwater that flows into the marsh from the Gulf. White Lake in Vermilion Parish, Grand Lake in Cameron Parish, and Calcasieu Lake in Calcasieu Parish are all marsh lakes.



### Bayous

No other waterway is more connected with Louisiana than the bayou. A **bayou** is a waterway that ranges in size from short and shallow to long and navigable. The word *bayou* comes from the Choctaw Indian language and means "creek." Early French settlers called bayous "the sleeping water" in reference to bayous that are slow moving. While some bayous are both short and shallow enough to walk across, others are miles long and are deep enough for large boats. These larger bayous can fill with water and send floodwaters rushing out of their banks.

Hundreds of bayous spread across the state. Some of them have names that refer to local legends or historical figures. Bayou Lafitte is named after the Louisiana pirate. Other bayous were once channels of the Mississippi River. Bayou Lafourche, called "the longest main street in the world," has supported travel, commerce, fishing, and the development of a distinct way of life among the people who live along this water-road.

**Above:** These kayakers are exploring the waters of Bayou Vermilion in Lafayette Parish.

### Reviewing the Section

- 1. Define in sentence form: navigable, drainage basin, sediment.**
- 2. What are four names given to our state's most important river?**
- 3. Give one example of a cutoff lake, a raft lake, and a marsh lake.**

### Using Geography Skills: Physical Geography

**Ask students to name the bayou(s) nearest their community.**

### Notes

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## Section 4

## Climate

## As you read, look for

- ▶ the difference between weather and climate and the type of climate found in Louisiana;
- ▶ the effects of tornadoes and hurricanes on Louisiana's people, property, and agriculture;
- ▶ the advantages of Louisiana's long growing season;
- ▶ terms: **weather, climate, precipitation, tornado, hurricane, growing season.**

The concepts of weather and climate are related, but they are not the same. **Weather** measures the current condition of the atmosphere on any given day. The daily news forecast gives a weather report, not a climate report. **Climate** is the average weather of an area over a long period of time, say twenty-five to fifty years.

The state has five geographic regions but only two climatic regions: North Louisiana and South Louisiana. The climate of South Louisiana is more affected by the Gulf of Mexico. The climate of North Louisiana is more affected by patterns that originate in parts of the United States north of Louisiana.

Louisiana has a humid subtropical climate. This means the summers are just as hot as in a tropical climate. It is the winter freezes that cause Louisiana to be classified as subtropical. Much of the warm air and moisture that create the state's humid subtropical climate are the result of systems that approach Louisiana and carry huge amounts of moisture. Continental air masses also influence the climate. These systems generally move from west to east across North America. Because there are no mountains to stop them, these continental air masses hit Louisiana full strength and flow across the state.

Temperature, precipitation, and wind are the atmospheric conditions used to describe climate. Although climate is a long-term measurement, the records of daily weather changes and shifts in temperature, precipitation, and wind provide the building blocks for understanding climatic change over time.



**Above:** The different weather patterns of Louisiana's winter, spring, summer, and fall bring changes to our trees and flowers. **Left:** Some regions of the U.S. are hot and dry while others are cool and lush.

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## Section 4

## Climate

## INTRODUCE

## Outline

- A. Temperature
- B. Precipitation
- C. Wind
- D. Climate and Agriculture

## Materials

Textbook, pages 25-32

Student Workbook

Teacher Tech DVD

Lesson Plan

Guided Reading, 1-4

mystatehistory.com

Online Textbook

## Bellringer: Higher Level Thinking

Ask students: How does the Gulf of Mexico affect the climate of South Louisiana? (*warm and moist air*)

## Social Studies Standard 3—Geography Skills

See page T5

## Social Studies Standard 5—Environment

Students analyze the effects of the environment on people and places in Louisiana.

**8.5.1** Describe how natural phenomena impact the physical environment of Louisiana

**8.5.2** Analyze and predict consequences of environment modifications on Louisiana and its inhabitants









**Hurricanes**

A **hurricane** is a violent storm that forms in the Atlantic Ocean during the summer and fall, with winds that extend over several hundred miles and move counterclockwise around an “eye.” When the wind speed of a tropical storm reaches seventy-four miles per hour, it becomes a hurricane. A hurricane begins over warm, tropical ocean waters and gets its energy from warm, moist air.

As the storm comes ashore, it hits the coastline with high winds and the high water caused by a *storm surge* (an abnormal rise of water generated by a storm’s winds). These walls of water pushed ashore by the winds of the storm can be more than ten feet high. When the storm surge happens during high tide, it may reach even twenty feet high. The storm surge and the heavy rain can cause flooding. Sometimes hurricane winds form tornadoes, which can do even more damage.

**Figure 1.2**

**Saffir-Simpson Hurricane Scale**

As the wind speed increases, does the barometric pressure rise or fall?

Category	Wind Speed	Pressure	Storm Surge
1	74-95 mph	28.94"	4-5 ft
2	96-110 mph	28.50-28.91"	6-8 ft
3	111-129 mph	27.91-28.47"	9-12 ft
4	130-156 mph	27.17-27.88"	13-18 ft
5	157+ mph	< 27.17"	19+ ft



*Lagniappe*

Potential hurricanes are given names when they reach tropical storm force. There are six standard lists of names, which begin repeating in the seventh year. However, when a storm has a major economic impact, its name (Katrina, for example) is replaced on the list.

**Above and Left:** Devastation left behind by Hurricane Katrina.

**Review and Discussion**

Refer to page T5 to review the five themes of geography: location, place, region, movement, and human-environment interaction. Ask students: How would you classify the study of a natural disaster (such as a hurricane) within the five themes of geography? Provide at least one reason for your classification.

**Using the Internet**

Go to the National Hurricane Center website, [www.nhc.noaa.gov/about-names.shtml](http://www.nhc.noaa.gov/about-names.shtml), to view the future hurricane names. Ask students: What do you notice about the use of male and female names? (*They alternate.*) How many of the names on the six lists are names of people in your class? Look for classmates’ middle names as well as first names.

**Answer to Figure 1.2 Skill**

The barometric pressure falls as the wind speed increases.

**Notes**

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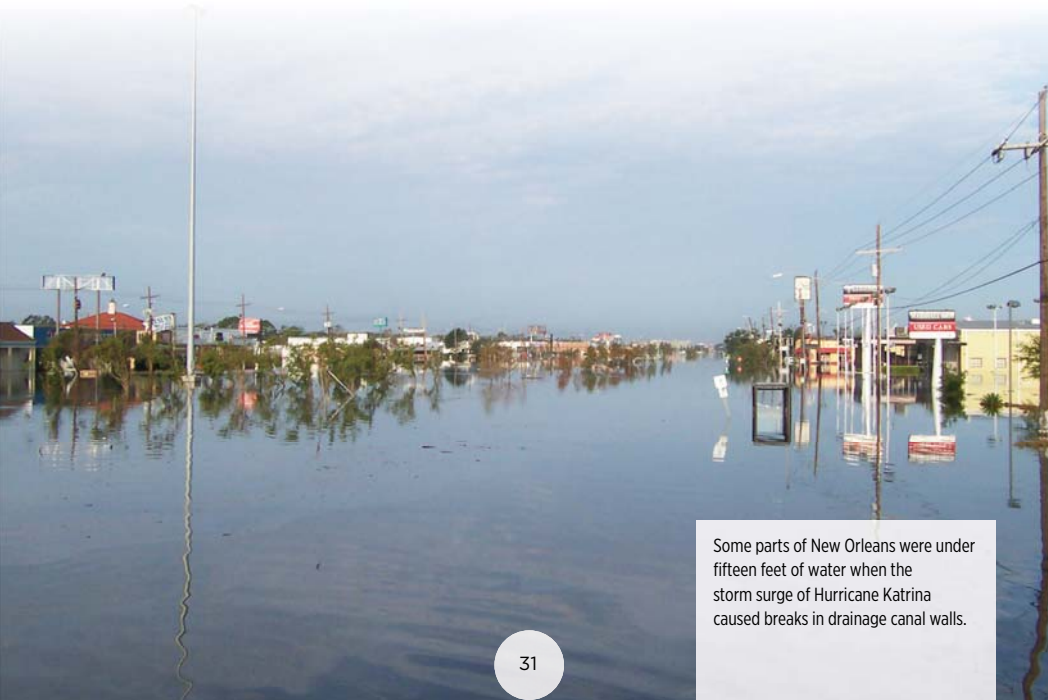


With damages estimated to be \$135 billion, Katrina is believed to be the most costly natural disaster ever to hit the United States. When you add the damages from Rita, the total figure rises to \$150 billion. In Louisiana alone, more than 1,400 people lost their lives.

On August 28, 2012, the evening before the seventh anniversary of Hurricane Katrina, Hurricane Isaac came ashore at the mouth of the Mississippi River. The storm lingered over Louisiana and the Gulf Coast states for two days and brought high winds and several inches of rain. New Orleans did not flood during Isaac, but the nearby communities of Slidell and LaPlace suffered severe flooding as did the east bank of Plaquemines Parish. The floodwaters even caused the closure of the interstate highway between New Orleans and Baton Rouge for several days. Almost half of the state's population lost electricity in the aftermath of the storm.

### Climate and Agriculture

The hurricanes of 2005 hit Louisiana agriculture hard. Citrus trees have long thrived in Plaquemines Parish because the temperature rarely drops below freezing. Katrina's storm surge covered many citrus groves with saltwater and killed many trees. In southeast Louisiana, Hurricane Katrina snapped many pine trees like toothpicks. Millions of acres of forest were damaged or destroyed. In southwest Louisiana, the rains and storm surges caused by Hurricane Rita flooded rice fields and cattle pastures.



Some parts of New Orleans were under fifteen feet of water when the storm surge of Hurricane Katrina caused breaks in drainage canal walls.

### In Other Words

**aftermath**—the period of time after an event, usually a bad or destructive event

### Engagement

Have students ask their parents and other adult friends and relatives what they remember about Hurricanes Katrina, Rita, and/or Isaac. Was their hometown personally affected by the storm(s)? In what ways?

### Using the Internet

The website [www.ready.gov/kids/games](http://www.ready.gov/kids/games) has some interactive games that teach preparedness skills. “Disaster Master” teaches about wildfires, tornadoes, and hurricanes in the form of a graphic novel. “Build a Kit” helps students learn the appropriate and inappropriate items to include in an emergency disaster kit.

### Discussion

Ask students: What citrus fruits are grown in Plaquemines Parish? (*grapefruits, lemons, limes, oranges, satsumas, and tangerines*)

### Notes

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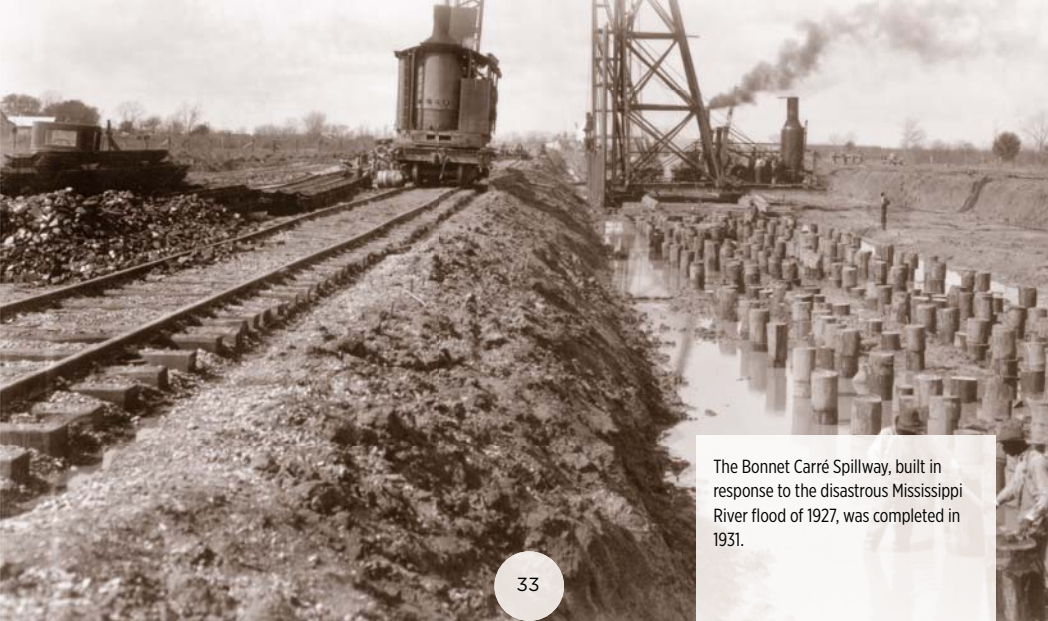
## Section 5

# People and the Environment

## As you read, look for

- ▶ the mixed results of human attempts to control flooding on the Mississippi River;
- ▶ the causes and effects of coastal erosion;
- ▶ ways in which government and private industry have addressed coastal erosion and tried to reverse the effects of man-made environmental disasters;
- ▶ terms: **wetlands**, **subsidence**, **nutria**.

Throughout history, people have interacted with the environment in ways designed to meet human needs. Native American populations hunted animals for food and moved large amounts of soil to build earthen mounds. In the 1830s, Henry Shreve spent years clearing the tangle of logs called the Red River Raft to make that river more accessible to trade and navigation. A great deal of the human interaction with nature in Louisiana has centered on the powerful Mississippi River. Attempts to control flooding and maintain the river's course have had mixed results.



The Bonnet Carré Spillway, built in response to the disastrous Mississippi River flood of 1927, was completed in 1931.

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## Social Studies Standard 5—Environment

Students analyze the effects of the environment on people and places in Louisiana.

**8.5.1** Describe how natural phenomena impact the physical environment of Louisiana

**8.5.2** Analyze and predict consequences of environment modifications on Louisiana and its inhabitants

## Section 5

# People and the Environment

## INTRODUCE

### Outline

- A. Flood Control
- B. Coastal Erosion

### Materials

Textbook, pages 33-39

Student Workbook

Teacher Tech DVD

Lesson Plan

Guided Reading, 1-5

[mystatehistory.com](http://mystatehistory.com)

Online Textbook

### Bellringer

Ask students: In recent years, what are some of the environmental issues affecting Louisiana? (*coastal erosion, damage to wetlands, flooding, and an oil spill*)







## Using Reading Skills: Summarizing

Instruct students to read about the Causes of Coastal Erosion. Then ask them to complete this 3-2-1 prompt:

**Identify:**

- 3** human causes of coastal erosion.
- 2** natural causes of coastal erosion.
- 1** question I still have.

## Using Art

Have students make a poster on plain white paper with the title "Coastal Erosion Harms Us All!" Each poster should illustrate one of the harmful effects of coastal erosion, e.g., damage to commercial fishing, damage to birds, etc. Display the posters around the classroom.

## Higher Level Thinking

Have students conduct research to find out the current status of the community of Holly Beach. What are the pro's and con's of enforcing strict building codes on vulnerable coastal communities? Are such codes essential because they can save lives and property, or do they prevent less-wealthy people from continuing to enjoy the simple pleasures of coastal living and recreation?

Many animal species depend on Louisiana's wetlands. The state's coastal marshes serve as nurseries for 75 percent of the fish that live in the Gulf of Mexico. The commercial harvesting of fish, shrimp, crabs, and oysters from off the coast of Louisiana provide the nation with much of its seafood. Dozens of bird species also depend on the state's coastal marshes and barrier islands for their habitat and *rookeries* (breeding grounds) at different times of the year.

Coastal erosion and wetlands loss also have very serious results for the millions of people who live near the Gulf Coast. Many jobs and industries depend on access to the Gulf of Mexico. This is especially true for oil and gas companies. About 20 percent of the oil imported into the United States comes through Port Fourchon in Lafourche Parish. Oil from oceangoing supertankers is offloaded into tanker trucks that travel inland up Highway 1. Coastal erosion has made this critical transportation route vulnerable to seasonal flooding. Over time, it could threaten the road's very existence.

### Causes of Coastal Erosion

There are multiple causes for coastal erosion. Nature and humans have both played roles. **Subsidence** is the slow process of land sinking into the sea. When the Mississippi River flooded annually, new silt was deposited each year, slowing the process of subsidence. Since the 1950s, much of that silt has been trapped upriver behind dams. The remaining silt stays within the levees and runs off into the Gulf of Mexico. The slow rise of sea levels has also played a role. Over the course of the twentieth century, the rise in sea levels has added to the effects of subsidence.



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Storms, especially powerful ones with high winds and storm surges, can also damage coastal areas. In 1957, Hurricane Audrey's storm surge drove saltwater into freshwater marshes and killed thousands of acres of vegetation. In 2005, Hurricanes Katrina and Rita devastated the state's coastal marshes, destroying more than two hundred square miles of wetlands between them.

Humans have also contributed to coastal erosion. One way they have done so is by introducing nonnative plant and animal species to the state's land and waterways.

The **nutria** is the best-known example. The nutria is a rodent that was once highly valued for its fur. These animals can reach two feet in length and weigh as much as twenty pounds. Hunters and trappers brought them to Louisiana from South America in the 1930s. No one anticipated that once they were released into the wild they would do so much damage. Nutria reproduce rapidly and eat virtually any plant. In the marshes, they feed on the roots of the plants that hold the soil together. They also create trails and burrows that cause even more damage. With populations as high as six thousand animals per square mile, they can sometimes completely remove the vegetation from an area, leaving only barren mudflats behind. These unprotected mudflats are more susceptible to coastal erosion.

Another human activity that has caused unintended damage is cutting canals through Louisiana's coastal wetlands. More than ten thousand miles of canals were created in the twentieth century. Some canals were cut for navigation or to remove valuable logs like cypress from the marsh. Oil and gas companies dug most of the canals to gain access to rich oil and gas deposits or to build pipelines to move the oil and gas inland. Most of these canals were in place before 1980 when new environmental rules limited their construction. The canals already in place widened over time, increasing land loss. Canals that ran into the Gulf of Mexico also provided a way for saltwater to move into freshwater marshes. This saltwater incursion can kill the protective marsh grasses that live only in freshwater.



A nutria consumes nearly 25 percent of its weight in plant material every day.



**Top:** The nutria is also known as the river rat or coypu. **Right:** The Old River Control Structure regulates the flow of water leaving the Mississippi River into the Atchafalaya.

## In Other Words

**burrows**—holes in the ground made by animals for shelter or protection

## Did You Know?

The female nutria has two to three litters every year, each consisting of five to seven young.

## Read and Research

The website <http://nutria.com> has many interesting facts about the nutria. Have students examine the site and write down ten facts that they learned about this nonnative species.

## Engagement

The website [www.tulane.edu/~b\\_fleury/envirobio/enviroweb/ExoticSpecies.htm](http://www.tulane.edu/~b_fleury/envirobio/enviroweb/ExoticSpecies.htm) has information about seven exotic (nonnative) plant and animal species that have done damage in Louisiana. Have students make a booklet with a title page and a page for each of these species. In addition to drawing or copying a picture of the plant or animal, they should tell when and how it “invaded” Louisiana and how it harms the environment.

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## Engagement

Offer extra credit to those students who identify the seven parishes where the Kisatchie National Forest is located. (*Claiborne, Grant, Natchitoches, Rapides, Vernon, Webster, and Winn*)

## Did You Know?

In 2014, Smokey the Bear (who is also called Smokey Bear) turned seventy years old! Smokey, with his message that “Only YOU can prevent wildfires,” is the longest-running public service announcement in the country.

## Using Art

The website [www.smokeybear.com](http://www.smokeybear.com) has—in addition to fun facts and games—a series of Smokey the Bear posters from the 1940s through the 1970s. After students have studied the posters, have them make one of their own with a message of preventing wildfires in the Kisatchie National Forest.

# Special FEATURE

## Kisatchie: Our State's National Forest

Did you know that, until the end of the 1800s, over 85 percent of Louisiana was covered with forests? In the 1880s, Louisiana had a lumber boom. Louisiana actually had the highest amount of lumber produced in the nation in 1914. Unfortunately, trees were not replanted appropriately. Louisiana's lumber industry declined just as the Great Depression began in 1929.

In 1930, the Louisiana Forestry Department helped bring about the creation of the Kisatchie National Forest. The name Kisatchie comes from a local Native American tribe, the Kichai, who called themselves “Kisatchie.” The U.S. Forest Service began buying land from closed mills in the parishes of Vernon, Rapides, Grant, Natchitoches, and Winn. Over time, the Forest Service continued to buy land from closed mills and expand the national forest.

During the Great Depression, the Civilian Conservation Corps (CCC) was created to give jobs to unemployed young men and to help conserve the United States' natural resources. The Kisatchie National Forest was the first place in Louisiana to get a CCC camp in 1933. The CCC began replanting pine trees in the area as well as building fences, roads, and bridges.

Thanks to the efforts of the CCC and the Forest Service, the Kisatchie National Forest now covers over 604,000 acres in seven parishes of northern and central Louisiana. In fact, it is the only national forest in all of Louisiana. Kisatchie is a great place for camping, fishing, hiking, hunting, picnicking, and many other outdoor activities. What do you think you would like to do if you visited Kisatchie?



**Top:** The ground skink is one of many reptiles found in the Kisatchie National Forest. **Middle:** A waterfall like this one on Kisatchie Bayou is a rare sight in Louisiana. **Bottom:** The Kisatchie National Forest provides opportunities for camping in all of its districts.



## Notes

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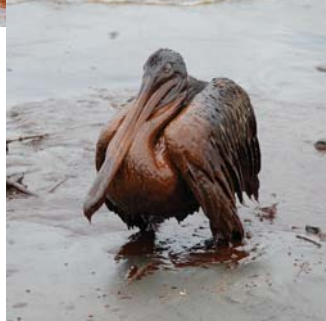
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**Crisis and Response**

The federal government recognized the importance of addressing coastal erosion. It adopted the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA) in 1990. This legislation is sometimes called the Breaux Act in honor of John Breaux, a former U.S. senator from Louisiana. He helped create the legislation and worked hard for its passage. Its purpose is to direct funds to protect and rebuild wetlands in Louisiana and other coastal states. In its first twenty years, CWPPRA funds supported 148 projects designed to restore more than 110,000 acres of lost wetlands. Sadly, this progress for the wetlands was followed by yet another crisis.

On April 20, 2010, an explosion on the Deepwater Horizon oil rig set off a chain of events that resulted in the largest and most damaging oil spill in the nation's history. More than 4 million barrels of oil flowed into the Gulf in the months that followed. Oil eventually came ashore in all of the Gulf Coast states. More than 300 miles of coastline were affected in Louisiana alone. Plant, animal, and sea life were all threatened by the oil. Widespread efforts to clean up the oil and protect the fragile coastal marshes and barrier islands were undertaken. Scientists are unsure about the long-term environmental effects of the spill. They continue to check on plant, animal, and sea creatures and the waters of the Gulf of Mexico in order to better understand those effects.

The nation's largest oil spill drew attention to the threatened wetlands once again. Gulf Coast states are trying to make sure that the majority of fines levied against the companies involved go back into reclaiming and protecting this fragile but important part of the coastal environment. This is a problem Louisiana cannot solve on its own. It will take national resolve, resources, and commitment to stem the tide of coastal erosion and its resulting land loss in Louisiana.



**Top:** The U.S. Coast Guard places an oil containment boom at Port Fourchon beach. **Above:** This Brown Pelican was covered with oil from the Deepwater Horizon oil spill. Without proper cleaning, the bird cannot survive.

**Reviewing the Section**

1. Define in sentence form: wetlands, subsidence, nutria.
2. How does the Bonnet Carré Spillway help protect the city of New Orleans?
3. How have humans contributed to coastal erosion?

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**Notes**

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**Did You Know?**

**According to the Occupational Safety and Health Administration (OSHA), the peak of the Deepwater Horizon response operations saw more than 47,000 men and women involved in responding to and cleaning up the oil spill.**

**In Other Words**

**stem the tide**—stop the spread or progress

**Diverse Learners**

Divide your students into heterogeneous groups of four students. Assign each group a major topic relating to the Deepwater Horizon oil spill. Instruct students to research offshore oil drilling, past oil spills, the cause of the BP oil spill, the eventual capping of the oil well, the environmental impact, and economic impact on the Gulf Coast and Louisiana.

**ASSESS**

**Answers to “Reviewing the Section”**

1. **Wetlands** are swamps, marshes, and other areas that have a natural supply of water and are covered or soaked with water at least part of the year. **Subsidence** is the slow process of land sinking into the sea. A **nutria** is a rodent that was once highly valued for its fur. Nutria can reach two feet in length and weigh as much as twenty pounds.
2. When spring floods threaten New Orleans, the bays of the Bonnet Carré Spillway can be opened and water from the Mississippi River can drain through those open bays directly into Lake Pontchartrain. This would lower water levels and ease pressure on the levees below.
3. Humans have contributed to coastal erosion by introducing nonnative plants and animals into the state's land and waterways and by cutting canals through the coastal wetlands.

## CHAPTER REVIEW

### Reviewing the Content: Scattergories

This review activity is loosely based on the popular game “Scattergories.” Prior to the review, divide your class into heterogeneous groups of four students. Assign each group a section of the chapter. (Two separate groups for each section is ideal.) Instruct student groups to cooperatively summarize important points from the section by writing five to ten fact statements; however, they should omit a key word from the statement—providing only the first letter of the word and placing that letter in parentheses. These fact statements should be submitted to the teacher along with an answer key. Review, select, and edit these statements as needed. Then make sufficient photocopies, so that you can distribute one copy of each section review sheet to each group.

On the day of the review game, instruct students to return to their groups. With each round, there should be a new designated group recorder of answers and a new reader. Next, announce the category (the title of the section) and distribute one copy of the review sheet face down to each group. Announce the time (45 to 60 seconds) students will have to complete the fact statements, and tell them to begin. An online timer works well for this purpose ([www.online-stopwatch.com/](http://www.online-stopwatch.com/)). It can be projected onto the screen or Smart Board, heightening the sense of anticipation. At the end of the allotted time, review the correct answers by rotating through the groups asking the reader to share the next completed fact statement. Each group receives a point for each correct answer; these points are recorded on the board. The highest score at the end of five rounds wins!

# Chapter Review

## Chapter Summary

### Section 1: Location

- Latitude measures a location’s distance north or south of the equator.
- Longitude measures a location’s distance east or west of the prime meridian.
- Earth is divided into 24 time zones. The 48 contiguous states have 4 time zones, with Louisiana in the Central Time Zone.
- Louisiana is bordered by Texas to the west, Arkansas to the north, and Mississippi to the east.

### Section 2: Natural Regions

- The United States is divided into 8 natural regions. Louisiana is in the Gulf Coastal Plain region.
- The 1874 Samuel Lockett geological survey identified Louisiana’s 5 major natural regions: Mississippi Floodplain, Red River Valley, Terraces, Marshes, and Hills.
- The Mississippi Floodplain region is subdivided into the natural levee, the swamp, and the passes.
- The Red River Valley region follows the Red River from northwest to central Louisiana. It has a single stream with natural levees and lower-lying areas behind them.
- The Terraces region includes blufflands, prairies, and flatwoods.
- The Hills region, Louisiana’s highest and roughest terrain, covers much of northern Louisiana and a smaller area in southeastern Louisiana.

### Section 3: Waterways

- Waterways are Louisiana’s dominant physical feature.
- The Mississippi River’s name comes from an Algonquin word meaning “great river.” The Mississippi River carries 375 billion gallons of water through the state every day.
- The Red River dominates the second-largest river drainage system in Louisiana.
- Lake Pontchartrain is the state’s largest natural lake.
- The word *bayou* means “creek” in the Choctaw language. There are many varieties of bayous across the state.

### Section 4: Climate

- Weather measures the current condition of the atmosphere on any given day. Climate is the average weather of an area over a long period (25 to 50 years).
- Temperature, precipitation, and wind are the atmospheric conditions that describe climate.
- Louisiana has a humid subtropical climate with 2 climate regions: North Louisiana and South Louisiana.
- North Louisiana has higher average temperatures because South Louisiana receives the cooling effects of the Gulf of Mexico.
- A tornado is a dark funnel-shaped cloud with strong swirling winds that circulate around a low-pressure center (an “eye”).
- A hurricane is a violent storm with wind speeds over 74 miles per hour.
- More than 60 hurricanes have hit Louisiana since the 1850s including Hurricane Katrina, which caused record destruction estimated at \$135 billion.

### Section 5: People and the Environment

- Spring flooding is a natural part of the Mississippi River’s yearly cycle. For thousands of years, those floods deposited soil that became new land.
- The Flood of 1927 demonstrated the problems with the U.S. government’s levees-only policy.
- The Bonnet Carré Spillway is designed to drain water from the Mississippi River when floodwaters threaten New Orleans.
- Louisiana is home to about 40 percent of the continental United States’ wetlands. Through coastal erosion, the state has lost 1,900 square miles of land over the last 50 years.
- In 1990, the federal government enacted the Coastal Wetlands Planning, Protection, and Restoration Act designed to protect, restore, and rebuild wetlands in Louisiana and other coastal states.
- In 2010, the Deepwater Horizon oil rig explosion led to the largest and most damaging oil spill in U.S. history.

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### Answers to “Activities for Learning”

#### Understanding the Facts

1. parallels and meridians
2. Texas, Arkansas, and Mississippi
3. between 29 degrees and 33 degrees north latitude and between 89 degrees and 94 degrees west longitude
4. The Mississippi River forms Louisiana’s upper eastern boundary; the Pearl River forms Louisiana’s lower eastern boundary; the Sabine River and

Toledo Bend Reservoir form Louisiana’s southwestern boundary with Texas; and the Gulf of Mexico forms Louisiana’s southern boundary.

5. Gulf Coastal Plain
6. the natural levee, the swamp, and the passes
7. a seasonally flooded forest
8. 2.5 million acres
9. salt marsh, freshwater marsh, and salt domes
10. Hills region
11. waterways

## Activities for Learning

### Understanding the Facts



1. What is another name for *latitude* and for *longitude*?
2. Which three states border Louisiana?
3. What is Louisiana's absolute location?
4. List the waterways that form part of Louisiana's boundaries.
5. In which of the eight natural regions of the United States is Louisiana located?
6. List the three parts of the Mississippi Floodplain region.
7. Define the term *swamp*.
8. How many acres of marsh are located in Louisiana?
9. What are the three parts of the Marsh region?
10. Which region has the highest and roughest terrain?
11. What is Louisiana's dominant physical feature?
12. Describe the Mississippi River's drainage basin.
13. What is the origin of the name "Atchafalaya" River?
14. Which large natural lake is located to the west of Lake Ponchartrain? Which body of water connects the two lakes?
15. How did early French settlers describe the slow-moving bayous?
16. Compare and contrast "weather" with "climate."
17. What type of climate does Louisiana have?
18. Which parts of Louisiana receive the most annual precipitation?
19. List three hurricanes that have impacted Louisiana in the twenty-first century.
20. How much of Louisiana's coastline was affected by the Deepwater Horizon explosion?

### Developing Critical Thinking



1. Using information from Section 1, write five sentences describing Louisiana's location. Use this example as your first sentence: "Louisiana is located in the Western Hemisphere." Now write four additional sentences making each subsequent sentence more geographically precise than the previous one.
2. Why do geographers consider Driskill Mountain a "hill" rather than a mountain?

### Exploring Louisiana on the Internet



Go to [www.history.com/topics/hurricane-katrina](http://www.history.com/topics/hurricane-katrina) and read the article and watch the video on Hurricane Katrina. Also, review the information provided in your textbook (pages 29-31). Now assume the role of a newspaper reporter and write an article about the destruction caused by this hurricane. Be sure your article answers the essential questions of reporting: Who? What? Where? When? Why? and How?

### Building 21st-Century Skills: Using Your Textbook



Making effective use of your textbook is an important skill. Your textbook has two parts: the narrative and visual information. The narrative tells the story of Louisiana while the visual information (charts, illustrations, maps, and timelines) helps make the narrative come alive.

The narrative is divided into fifteen chapters. Each chapter contains several sections with each section identified by a major heading (yellow lettering). Lower-level headings are set in bold dark red letters. Scan the headings before you begin to read to better understand the plan of each chapter.

Try this activity with this chapter and the other chapters in the textbook. Prepare an outline of Chapter 1 using the headings and subheadings in the chapter.



Chicot State Park (Blufflands).

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**12.** The Mississippi River drainage basin includes 1,245,000 square miles and parts or all of thirty-one states and two Canadian provinces.

**13.** The term *Atchafalaya* comes from the Choctaw words *hache* meaning "river" and *falaia* meaning "long."

**14.** Lake Maurepas; Pass Manchac

**15.** Early French settlers called bayous "the sleeping water."

**16.** Both involve daily atmospheric conditions. Weather involves only the atmospheric conditions on a given day

while climate is the average weather of an area over a long period.

**17.** humid subtropical climate

**18.** central and southeastern Louisiana

**19.** Hurricanes Katrina, Rita, and Isaac

**20.** more than 300 miles of coastline

### Developing Critical Thinking

**1.** Answers will vary.

**2.** Driskill Mountain stands 535 feet above sea level. According to geographers, only landforms that exceed 2,000 feet (from base to summit) are

considered mountains. Therefore, from a geographer's perspective, Driskill Mountain is actually a hill.

### Exploring Louisiana on the Internet

Check students' articles.

### Building 21st-Century Skills

#### Louisiana's Geography

##### Location

Louisiana in the United States

Boundaries

##### Natural Regions

Mississippi Floodplain Region

The Natural Levee

The Swamp

The Passes

Red River Valley Region

Terraces Region

The Blufflands

The Prairies

The Flatwoods

Marsh Region

Salt Marsh

Freshwater Marsh

Salt Domes

Hills Region

##### Waterways

Rivers

Lakes

Bayous

##### Climate

Temperature

Precipitation

Wind

Tornadoes

Hurricanes

Climate and Agriculture

##### People and the Environment

Flood Control

Coastal Erosion

Causes of Coastal Erosion

Crisis and Response