

**ATCHAFALAYA BASIN PROGRAM:  
EDUCATIONAL MATERIALS  
LESSON ONE:  
“LET’S GO PADDLING: WHAT TO KNOW  
BEFORE WE GO”**

GRADE LEVEL & SUBJECT AREA:

8<sup>th</sup> grade social studies

TIME NEEDED:

3 days

LESSON INCLUDES:

1. Essay for students
2. Essay quiz
3. Critical thinking exercise
4. Internet resources
5. Student experiment
6. Three-day lesson plan, drawn from student essay

ASSESSMENT:

1. Quiz on essay
2. Letter to editor

GRADE-LEVEL EXPECTATIONS COVERED IN THREE DAYS:

2. Locate major landforms and geographic features, places, and bodies of water/waterways on a map of Louisiana (G-1A-M2)
5. Describe and analyze the distinguishing physical and/or human characteristics of Louisiana regions (G-1B-M1)
7. Explain how or why specific regions are changing as a result of physical phenomena (e.g., changes in the coastal wetlands) (G-1B-M3)
8. Identify and describe factors that cause a Louisiana region to change (e.g., natural occurrences, disasters, migration) (G-1B-M3)
9. Explain ways in which goals, cultures, interests, inventions, and technological advances have affected perceptions and uses of places or regions in Louisiana (G-1B-M4)

14. Analyze, evaluate, and predict consequences of environmental modifications on Louisiana landforms, natural resources, and plant or animal life (G-1D-M1)
15. Analyze the benefits and challenges of the Louisiana physical environments on its inhabitants (e.g., flooding, soil, climate conducive to growing certain plants) (G-1D-M2)
16. Analyze the distribution and uses of Louisiana's natural resources (G-1D-M3)
78. Describe and analyze the impact of Louisiana's geographic features on historic events, settlement patterns, economic development, etc (H-1D-M4)

# **THE ATCHAFALAYA BASIN: LESSON ONE: Student Essay**

## **LET'S GO PADDLING: What to Know Before We Go**

### **I. DESTINATION: THE ATCHAFALAYA BASIN**

Here in Louisiana we enjoy an extraordinary wetland area that is different from anyplace else on earth—the Atchafalaya Basin.

The Atchafalaya Basin is located in South Central Louisiana, and it includes nearly one million acres of outstanding semi-wilderness landscape. There are bayous, cypress swamps, hardwood forests, marshes, open waters, and lakes. This remarkable wetland area is one of the most productive habitats in the world for fish and wildlife. What's more, it is superbly scenic—with mysterious moss-draped cypress trees and wonderful wild plants. Sometimes, it's even a bit spooky.

A great way to experience the Atchafalaya Basin is by boat—especially one without a motor, such as a canoe or kayak. Imagine quietly paddling through acres of this remarkable wetland. You might see the majestic alligator. You could put out a crawfish trap to catch a few pounds. Do you want to cast a fishing line? You might even see a bald eagle or a great egret or a roseate spoonbill. What would your mom say if you came home with a nutria? Some people claim that they make great pets! Maybe she'd prefer it if you would stick to watching them in the swamp!

Whatever you decide to do, we guarantee that you'll have a great time in the Atchafalaya Basin.

Before you leave, though, you need to get some important information about the place you're visiting. It is always a good idea to start a paddling trip with research! Otherwise, you just might find yourself in a dried up swamp!

## **2. WHERE IS THE BASIN?**

The Atchafalaya Basin is in South Central Louisiana. Eight parishes primarily make up the “Atchafalaya Basin region”: Assumption, Avoyelles Iberia, Iberville, Pointe Coupee, St. Landry, St. Martin, and St. Mary. Why don’t you outline these parishes on a map, so that you can see them more clearly.

## **3. WHAT IS THE BASIN?**

The Atchafalaya Basin is the largest contiguous (touching along boundaries) river swamp in the United States. It was created over a thousand years ago, when the “Mighty Mississippi” changed its course. When the Mississippi River changed directions, it created new natural levees. How? It deposited silt and other sediments during floods. Eventually, these natural levees created the Atchafalaya Basin, which holds some of the flood waters of the Mississippi River.

To understand how The Basin functions, think about what the word “basin” means. Remember that before people had running water in their homes, they had “wash basins.” A river basin is a kind of natural bowl that acts like a giant sponge. River waters flow into and out of this spongy bowl. Different waters flow into the Atchafalaya Basin: they include the Mississippi River flood waters, the Red River, and the Atchafalaya River.

## **4. THE ATCHAFALAYA: IT’S A BASIN, A RIVER, & A BAY**

Did you get a little confused when you looked at the map? It might be because you were trying to find the Atchafalaya Basin, but found the Atchafalaya River or the Atchafalaya Bay instead.

The Atchafalaya River begins near Simmesport, Louisiana. There it connects with the Mississippi and Red Rivers, and it serves as a distributary (a river branch that flows away from the main stream) for both rivers. From Simmesport, the Atchafalaya River flows south.

The Atchafalaya River is about 140 miles long. It flows through the Basin, and then spills into the Gulf of Mexico near Morgan City, into the Atchafalaya Bay.

Actually, 140 miles is quite short for a river. This is surprising because the name, “Atchafalaya,” is from the Choctaw “hacha falaia,” which means “long river.” The Atchafalaya may not be all that long, but this river is hugely important. It is the nation’s largest distributary for the Mighty Mississippi, which floods the Basin once every year, during spring.

Before you go paddling, you need to learn about the different water cycles of the Basin. The water varies throughout the year between high and low. The high-water season is during the spring—a good time to go paddling.

## **5. WATER CYCLES AND FLOOD CONTROL**

Every year, the Mississippi River goes through its “spring flood.” This raises the water level in the Atchafalaya Basin, and brings new sediments, fresh water, and nutrients to the wetland. The spring renewal is necessary to sustain the variety of plant and animal life in the Basin. The “low water” seasons are the fall and winter, and the summer is somewhere in between high and low.

The spring floods of the Mississippi have been one of the world’s biggest natural challenges. During the nineteenth century, the yearly flooding grew more and more threatening. The people who lived in the Basin had to adapt to the changing water levels. Because of regular flooding, houseboat communities began to develop, so that residents of the swamp could “go with the ebb and flow” (“ebb” is when waters decline; “flow” is when they rise. To “go with the ebb and flow” means that people adjust to changing conditions.) People also built special boats, such as the pirogue, to navigate the Basin waters.

On May 17, 1927, the Mississippi River levee at Melville, Louisiana, broke, and massive destruction followed. Before this frightening day in May, rain had fallen heavily for many months. All along the banks of the Mississippi River, levees burst and millions of acres were flooded. Many people died, and others lost their homes.

The nation was stunned by this destructive natural disaster, and the government acted so that it could never happen again. Congress passed the “Flood Control Act” in 1928. This Act developed a thorough flood control system and created the “Mississippi River and Tributaries” project (MR&T). As part of the flood

control system, man-made levees were built along the Atchafalaya River and Basin.

Today, one of the most important functions of the Atchafalaya River and Basin is flood control. The levees contain the flood waters, and channel them safely to the Gulf of Mexico. But building these levees has changed the nature of the Basin.

## **6. MIXED BLESSING**

No one can deny that flood prevention for Louisiana is very important. Aren't you glad that New Orleans hasn't been washed away? However, when we try to control Mother Nature, there are usually unexpected results. Forcing the Mississippi's flood waters to flow between the levees has saved much of South Louisiana; nevertheless, the levees have prevented the Mississippi from flooding the entire landscape with fresh water and new nutrients. They have also changed the way the Mississippi River deposits sediments into the coastal regions of Louisiana.

The Atchafalaya Basin Program, with help from the Army Corp of Engineers, is working to help control some of the problems which have arisen. They are cutting "water gaps" in certain areas to allow fresh water into stagnant areas. They are also diverting silt to needed areas. And they are trying to purchase much of the region so that the government can regulate its quality.

Now that you have learned about the location, function, and water cycles of the Atchafalaya Basin, we can begin focusing on the canoe trip. You'll need to research the trips available. Decide if you want a short, medium, or long trip. Also, decide what you will need to take along in your canoe. Research where you want to lodge and eat. Locate emergency numbers. And don't forget your mosquito repellent and sun screen.

## **7. LET'S PUT IN OUR CANOE**

Before leaving, you should visit the website sponsored by Atchafalaya Paddle Trails. It is at [www.bayoutrails.org](http://www.bayoutrails.org). This website offers maps, a list of guided tours, directions, and other very practical advice. They have created over a

dozen routes. Contact the Atchafalaya Paddle Trails program to find out which route will be best for you at the time of year you're planning to travel.

Before you decide, take a trip to the new Butte LaRose Welcome Center, where you can watch a video and get more information about the Basin. Plus, you can cast a fishing line at the children's fishing pier! See you there.

## WHAT DID YOU LEARN?

Circle the letter of the correct answer.

1. Which three Louisiana River's connect in Simmesport, Louisiana?
  - a. Mississippi, Atchafalaya, Pearl
  - b. Mississippi, Red, Atchafalaya
  - c. Mississippi, Red, Ouachita
  
2. When the Mississippi changed its course, thousands of years ago, what formed to first create the Atchafalaya Basin?
  - a. Cypress trees
  - b. Man-made levees
  - c. Natural levees
  
3. Which parish is not part of the Atchafalaya Basin region?
  - a. Iberia
  - b. Caddo
  - c. St. Mary
  - d. St. Landry
  - e. St. Martin
  - f. Iberville
  
4. Which of the following statements is NOT true:
  - a. The Mississippi River's spring flooding brings new sediments, nutrients, and fresh water
  - b. People have long adapted to the changing water cycles of the Basin
  - c. The Atchafalaya Basin's levees prevent Louisiana from being flooded
  - d. The spring flooding is unnecessary for a diversity of plant and animal life in the Basin
  
5. What is the Atchafalaya Basin Program, along with the Army Corps of Engineers, doing to help control some of Louisiana's environmental problems?
  - a. Cutting water gaps to allow fresh water to enter the coastal regions
  - b. Diverting silt to needed areas
  - c. Purchasing land for governmental regulation
  - d. All of the above
  - e. None of the above



## WHAT DO YOU THINK?

To protect Louisiana from floods, the Basin must be an artificial path, with man-made levees, to carry high flood waters to the Gulf. However, in its natural state, the Basin would be a giant sponge, slowly absorbing water and allowing sediments to slowly settle. What do you think? Should we ever fool with Mother Nature? If so, how do we protect the land? If not, how do we protect people?

## LET'S GO SURFING

Visit the following websites to learn more about the Atchafalaya River and Basin.

Atchafalaya Basin Program

<http://www.dnr.state.la.us/sec/atchafalaya/index.shtm>

Atchafalaya Basin Management

<http://water.usgs.gov/pubs/fs/fs-019-99/pdf/fs01999.pdf>

Atchafalaya Paddle Trails

[www.bayoutrails.org](http://www.bayoutrails.org)

Atchafalaya Trace Program

<http://www.atchafalayatrace.org/>

Army Corp of Engineer's Atchafalaya Basin Project

<http://www.mvn.usace.army.mil/pao/bro/AtchafalayaBasinProject.pdf>

Louisiana's Vanishing Wetlands

<http://www.americanradioworks.org/features/wetlands/full.html>

Department of Wildlife and Fisheries, Louisiana: streaming videos

<http://www.wlf.state.la.us/apps/netgear/page6.asp>

Maps of Atchafalaya Basin

<http://www.atchafalayatrace.org/Maps/Base%20map%20final.pdf>

PBS American Experience: The Fatal Flood

<http://www.pbs.org/wgbh/amex/flood/>

## **JUST FOR FUN**

### **STEP ONE:**

Find a cleaning sponge (this can be any ordinary sponge that you would use in a kitchen), and put the sponge on your sidewalk or patio—somewhere where water can drain. Keep pouring water over the sponge for about five minutes (it is probably easiest to use a garden hose.) In a journal, write down what you observe. Your observations will be similar to how water flowed in the Basin before the man-made levees were built.

### **STEP TWO:**

Next, put two bricks on the side of the sponge, to act as barriers—or levees. Pour water over the sponge for five minutes, just as you did in Step One. How does the water behave differently? Record your observations in your journal. Your observations will be similar to how water flows in the Basin now that the man-made levees have been built.

**FOR THE TEACHER:  
THREE-DAY LESSON PLAN  
8<sup>TH</sup> GRADE SOCIAL STUDIES**

OVERVIEW OF THREE-DAY LESSON:

Students will start an imaginary paddling trip through the Atchafalaya Basin. This is a good occasion to stress how important research is, even in the fun things we do.

On Day 1, students will locate the Atchafalaya Basin parishes on the map, learn of the Basin's relationship to the Mississippi and Red Rivers, and describe distinguishing physical features of the Atchafalaya Region.

On Day 2, they will learn of the Basin's water cycles, and the Basin's function as a floodway for the Mississippi River.

On Day 3, they will put geography to practical use, by planning a canoe trip in the Basin, using available resources and planning materials.

**DAY 1: USING THE MAP  
(45 minutes)**

GRADE-LEVEL EXPECTATIONS:

2. Locate major landforms and geographic features, places, and bodies of water/waterways on a map of Louisiana (G-1A-M2)
5. Describe and analyze the distinguishing physical and/or human characteristics of Louisiana regions (G-1B-M1)
7. Explain how or why specific regions are changing as a result of physical phenomena (e.g., changes in the coastal wetlands) (G-1B-M3)
8. Identify and describe factors that cause a Louisiana region to change (e.g., natural occurrences, disasters, migration) (G-1B-M3)

PREPARATION:

1. Read student essay
2. Read information at the websites linked to this lesson in "Let's Go Surfing"
3. Duplicate map of Basin region from website:  
<http://www.atchafalayaTRACE.org/Maps/Base%20map%20final.pdf>
4. Prepare to take the students on an imaginary canoe trip with visual aids and stories. Perhaps you have a story to tell of your own.
5. Display a large map of the Atchafalaya Basin in the classroom. The maps are available from the Atchafalaya Basin Program: P.O. Box 94396, Baton Rouge, LA 70804; 225-342-6437

MATERIALS/EQUIPMENT:

1. Maps of Atchafalaya Basin
2. Visual aids for canoeing
3. Internet connection, if possible

INTRODUCTION TO STUDENTS (10 minutes):

1. This lesson has been designed to emphasize paddling opportunities in the Atchafalaya Basin. If students can imagine taking a real trip, the research and information should seem more relevant and necessary. Stress for them the disappointment they might feel if they prepared to canoe in a region, and got there only to find that the water was too low.
2. After introducing the general subject, have students write down five things they would do before they left on any canoeing vacation. Call on students to read their list and have them explain their items.
3. At least five essential steps for paddling trips are these:
  1. decide on a safe, interesting location
  2. research the geographical information
  3. obtain maps and necessary equipment
  4. decide on food and lodging
  5. register travel itinerary with reliable person

You may think of more. The purpose of this activity is to stress that research must be undertaken on such a trip.

MAIN LESSON (25 minutes):

1. Tell the students that your class will take an “imaginary” trip in the Atchafalaya Basin and that you’re going to start doing the necessary background research.
2. Have students read Sections 1-4 of the student essay: 1. Destination; 2. Where is the Basin?; 3. What is the Basin; 4. It’s a Basin, River, and Bay. It is a good idea to have the students read aloud, to keep them all on the same page.
3. Discuss vocabulary words underlined and defined in the essay. Discuss any other words the students might be unfamiliar with.
4. Using maps, locate the eight parishes of the Basin and point out its relationship to the Mississippi and Red River. Ask students to tell what they know about this region.
5. Discuss the function of a river basin—a giant sponge-like bowl that absorbs water and distributes nutrients and sediments. For the lesson on Day Two, prepare the students to understand the possibility of flooding and the impact of man-made levees.
6. Allow students to surf Wildlife and Fisheries’ website, with streaming video of Basin wildlife, <http://www.wlf.state.la.us/apps/netgear/page6.asp>

CONCLUSION:

Ask students to perform the “Just for Fun” exercise at home for extra credit (it may be impossible to ask some students to find a sponge, garden hose, and bricks, so this assignment would be difficult to require.) Have them report their findings.

HOMEWORK:

1. Read sections 5 and 6 of the student essay:
2. Start students thinking about the effects of a natural disaster by having them write a paragraph about any natural disaster they went through—a hurricane, a tornado, a flood, a lightning storm, drought. If they haven’t gone through a natural disaster, have them interview their parents or another family member or friend about their experiences.
3. Tell students that you will call on several of them to read their paragraphs to the class the next day.

## DAY 2: WATER CYCLES AND FLOOD CONTROL (45 minutes)

### GRADE LEVEL EXPECTATIONS:

2. Locate major landforms and geographic features, places, and bodies of water/waterways on a map of Louisiana (G-1A-M2)
5. Describe and analyze the distinguishing physical and/or human characteristics of Louisiana regions (G-1B-M1)
14. Analyze, evaluate, and predict consequences of environmental modifications on Louisiana landforms, natural resources, and plant or animal life (G-1D-M1)
15. Describe and analyze the impact of Louisiana's geographic features on historic events, settlement patterns, economic development, etc (H-1D-M4)
78. Analyze the benefits and challenges of the Louisiana physical environments on its inhabitants (e.g., flooding, soil, climate conducive to growing certain plants) (G-1D-M2)

### PREPARATION:

1. Locate Randy Newman song, "Louisiana 1927," and print lyrics
2. Decide on a story you want to tell about natural disaster
3. Read background materials on Flood of 1927
4. Read background materials on Army Corp of Engineers' efforts to prevent flooding

### MATERIALS/EQUIPMENT:

1. CD or Tape Recorder
2. Map of Atchafalaya Basin
3. Internet connection, if possible
4. Lyrics to "Louisiana 1927," at <http://www.randynewman.com/gob.html#6>

### INTRODUCTION TO STUDENTS (10 minutes):

1. For this lesson, you want to fire the students' imagination about the horror of a natural disaster, such as the Flood of 1927. Randy Newman's song does a wonderful job. Begin the class by playing this song. Remind students that Randy Newman wrote the theme song for the TV show, *Monk*, as well as the soundtrack for the film *Toy Story*.
2. Then remind students that their homework was to write about a natural disaster that they or someone they know experienced. Have students read or tell

their stories. And be sure to tell one of your own. Remind the students that the Atchafalaya Basin is what it is today because of the 1927 flood.

MAIN LESSON (25 minutes):

1. The main lesson focuses on how humans try to control nature to prevent natural disasters. Students were assigned, for homework, to read Sections 6 and 7 on flood control in the student essay. After introducing the concept of natural disaster, have students discuss the facts that they learned from the essay about flood control. They should be able to describe and analyze the physical characteristics of the levees along the Atchafalaya and Mississippi.
2. If you have Internet facilities, have students visit the website, "PBS American Experience: The Fatal Flood," <http://www.pbs.org/wgbh/amex/flood/>. They can see actual pictures and get some history at this website.
3. Have students visit the website, "Army Corp of Engineer's Atchafalaya Basin Project," <http://www.mvn.usace.army.mil/pao/bro/AtchafalayaBasinProject.pdf>, to discover what they ACE is doing.
4. Have students visit the website, "Louisiana's Vanishing Wetlands," <http://www.americanradioworks.org/features/wetlands/full.html> to read about consequences of altering Mother Nature.
5. After you have reviewed the content information about the 1927 flood and the ACE's efforts at flood control, divide the students into two groups for a debate: Should we try to change Mother Nature? In this discussion, students can describe and analyze the impact of floods and flood control.

CONCLUSION:

Do not try to settle the debate among the students. The more disagreement, the better! Encourage their critical thinking skills, and force them to defend their positions. Leave them thinking about the issue, and tell them to go home and discuss it with their family and friends.

HOMEWORK:

1. Discuss flood control issue with family and friends. Be prepared to report.
2. Read Section 7 of student essay.
3. Complete the "What did you Learn" quiz at home.

### DAY 3: PREPARING TO TAKE TO THE WATER (45 minutes)

#### GRADE LEVEL EXPECTATIONS:

9. Explain ways in which goals, cultures, interests, inventions, and technological advances have affected perceptions and uses of places or regions in Louisiana (G-1B-M4)
15. Analyze the benefits and challenges of the Louisiana physical environments on its inhabitants (e.g., flooding, soil, climate conducive to growing certain plants) (G-1D-M2)
16. Analyze the distribution and uses of Louisiana's natural resources (G-1D-M3)

#### PREPARATION:

Review background materials on canoeing in Basin at Atchafalaya Paddle Trails, [www.bayoutrails.org](http://www.bayoutrails.org).

#### MATERIALS/EQUIPMENT:

1. Internet connection
2. Map of Basin
3. Driving Atlas
4. GPS system, if available

#### INTRODUCTION TO STUDENTS (10 minutes):

1. Collect "What Did You Learn" quiz, done for homework. Today's lesson is about using maps and visiting websites to do background research for a trip. Geography is never more important than when you in the middle of the Basin, in a canoe, and lost. The changing water levels in the Basin will influence how easily it is to get lost.
2. It will be nearly impossible to take students on a virtual canoe trip. What's more, you want to encourage them to go out with a guide. People who know the Basin can get lost, so you don't want to encourage teenagers to do this on their own.
3. Focus the lesson on taking a guided tour, getting to the tour, and planning an itinerary with written and electronic resources available. The main lesson will draw from [www.bayoutrails.com](http://www.bayoutrails.com).



MAIN LESSON (25 minutes):

1. Have students log on to [www.bayoutrails.com](http://www.bayoutrails.com). Allow them five minutes to surf the site and get familiar with it.
2. Have students click on "Calendar of Events." They should select the tour they want take.
3. With a road map, driving atlas, [www.mapquest.com](http://www.mapquest.com), and/or GPS system, have students plan the route they want to take to get to the meeting point.
4. Have students make up a travel itinerary:
  - Best time of year to travel
  - Preferred destination
  - Time of day to leave
  - Estimated time of arrival
  - Miles traveled
  - Length of canoe trip, allowing for stops and eating
  - Departure time from landing
  - Time to return home
  - Students should plan to leave a copy of their itinerary with someone.
5. Discussion questions:
  - What is the best time of year to canoe the Basin?
  - Which trip would they prefer, and why?
  - How has technology affected the way they can plan?

CONCLUSION:

Stress the idea of using a guide by having students brainstorm about the possibility of getting lost in the Basin. What could happen, because of flooding cycles and water seasons, that they might not be able to anticipate?

HOMEWORK:

Conclude the three-day study of the Atchafalaya by having students create a "found poem" about the Basin. These are the steps students should follow:

1. Write down ten key words or phrases associated with this lesson about the Basin.
2. Arrange these words so that they create meaning and are pleasing.
3. Write a poem from the words.
4. Read the poem to the class.

## ADDITIONAL RESOURCES

Barry, John. *Rising Tide*. New York: Simon & Schuster, 1997.

Schleichert, Elizabeth. "Into the Swamp." *Ranger Rick* Sept. 2003: 4-9.

Video: *Atchafalaya: America's Largest River Basin Swamp*. Dir. C.C. Lockwood and Mary Stouffer. Prod. C.C. Lockwood. Cactus Clyde Productions. 1981.

Army Corps of Engineers: brochures

<http://www.mvn.usace.army.mil/pao/brochures.htm>

Barataria-Terrebonne National Estuary Program

[www.btep.org](http://www.btep.org)

C.C. Lockwood and Rhea Gary's "Marsh Mission"

[www.marshmission.com](http://www.marshmission.com).

Coastal Landloss map

<http://lacoast.gov/maps/2003landloss/landloss11X17.pdf>

Louisiana Coast Educational Materials

<http://lacoast.gov/education/index.htm>

Save the Marsh Foundation

<http://www.savethemarsh.org>