

The Great Mississippi Delta Flood of 1927

Author(s)

Created by Kathleen Gaffney with Christopher Eaves

Grade Range: 5-8, 9-12

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Description

Close your eyes and imagine that you are transported back in time to the spring and summer of 1927. You are in the United States of America in the state of Mississippi, living near the river the natives called, “The Father of Waters”. There are great levees protecting you from the powerful Mississippi River, (the Army Corp of Engineers says so). Then, imagine awakening in the midst of a month long downpour that engorges the river to the point that it threatens to burst through the levee, flooding everything in sight and tearing your beloved family apart. Your situation calls on the deepest of your emotional bounty and stretches you further than you ever thought possible. What will you do? What decisions will you make? In the end will you live or die?

This enthralling experience will take you places you have never been before. The Mississippi Delta Flood is the setting; the music, the drama, and the writing are our vehicles, but at the heart of it all is recreating the human experience. The theme is living the ordinary human experience in the most difficult of times. Students will be led through the creation of family groups and intense character vignettes. We will hear eyewitness accounts and listen to the actual blues songs written as a result of this devastating natural disaster. By the end of the workshop, you will have lived through gut-wrenching hardships with your newly created family, laughed with them, made difficult decisions with them, and in some cases have been swept away and died with them. All the while the river keeps on rising, many of Mississippi’s residents faced this challenge nobly, working and helping to save many lives while others took advantage for personal profit or used it as a chance to settle scores. These choices will be experienced and the struggle recorded in letters, accounts and diaries. By the end the students will find that people of the Mississippi Delta were and are some of the most resourceful people on Earth.

INTRODUCTION

MISSISSIPPI RIVER FACTS:

Mississippi River, principle river of the United States:
c. 2,350 miles (3,780 Kilometers) long
Exceeded in length only by the Missouri River.
The chief of it's numerous tributaries.

The combined Missouri-Mississippi system (from the Missouri's headwaters in the Rocky Mountains to the mouth of the Mississippi River) is c. 3,740 miles (6,020 kilometers) long, and ranks as the world's third longest river system, after the Nile and the Amazon.

With its tributaries, the Mississippi drains c. 1,231,000 square miles (3,188,290 square kilometers) of the central United States, including all or part of 31 states and c. 13,000 square miles (33,670 square kilometers) of Alberta and Saskatchewan in Canada.

CROPS:

Cotton and rice are important crops in the lower Mississippi Valley; sugarcane is raised in the delta. The Mississippi River is abundant in freshwater fish; and shrimp are taken from the briny delta waters. The delta also yields sulfur, oil, and gas.

BRIEF HISTORY

During THE CIVIL WAR

Traffic from the north ceased after the outbreak of the Civil War. During the Civil War the Mississippi River was an invasion route for Union armies and the scene of many important battles.

Especially decisive were:

The capture of New Orleans (1862) by Admiral David Farragut, the Union Naval Commander, and the Victory of Union Forces under Grant at Vicksburg in 1863.

After the war

River traffic resumed after the war, but much of the trade was lost to the railroads. With modern improvements in the channels of the river there has been a great increase in traffic, especially since the mid-1950s with the principal freight items being petroleum products, chemicals, sand, gravel, and limestone.

The lower Mississippi meanders in great loops across a broad alluvial plain (25-125 miles/40-201 kilometers wide) that stretches from Cape Girardeau, Missouri, to the delta regions of Natchez, Mississippi. The plain is marked with oxbow lakes and marshes that are remnants of the river's former channels. Natural levees, built up from sediment carried and deposited in times of flood, border the river for much of its length. Sediment carried and deposited in times of flood, border the river for much of its length. Sediment has also been deposited on the riverbed, so that in places the surface of the Mississippi is above that of the surrounding plain, as evidenced by the St. Francis Black, Yazoo, and Tensas river basins. Breaks in the levees frequently flood the fertile bottomlands of these and other low-lying areas of the plain.

MISSISSIPPI STATE FIFTH GRADE SOCIAL STUDIES STANDARD COMPETENCIES AND SUGGESTED OBJECTIVES

- # 3a.) Analyze spatial and ecological relationships between people, and environments using social studies tool (e.g. timelines, maps, globes, resources etc.).**
- b.) Identify and discuss major U.S. waterways (e.g. Mississippi River).**

The Mississippi River is more than just a river; it is an historical force of nature and a force of history. The tale of the Mississippi is the saga of America itself. What happens here effects all the United States, it always has and it always will.

MULTIPLE INTELLIGENCES:

Linguistic – Oral Histories, Creating Characters, Interviews

Logical – Working with maps, understanding facts and sequence (e.g. the water pressure experiment)

Musical – The Blues, Working to Music, Learning Lyrics

Body Kinesthetic – Tableaus and The River sequence

Visual Spatial – Working from Photos, Maps, Coloring Flood States

Interpersonal and Intrapersonal – The interview answers, The oral histories, form a character’s point of view, making the river roll.

Naturalist and Existentialist – Seeing and smelling the actual river water in the jar, understanding that human beings make a tremendous difference to their environment.

The Year 1927

Discuss with Students:

“Showboat” is the popular Broadway success by Jerome Kern and Oscar Hammerstien. The story is about life along the Mississippi River.

Main stream popular songs of 1927:

“Old Man River”

“Let A Smile Be Your Umbrella”

“Blue Skies”

Discuss the irony or coincidence of these songs.

Popular Blues Songs of 1927:

“Back Water Blues” by Bessie Smith.

“Rising High Delta Blues” by Blind Lemon Jefferson.

These songs were written directly about the Mississippi Delta Flood.

Science, Technology, Art, Growth:

Charles A. Lindberg flies “Spirit of St. Louis” monoplane nonstop from New York to Paris in 33.5 hours.

The Iron Lung is designed by P. Dinker and L.A. Shaw (for polio sufferers).

The Holland Tunnel (1st vehicular) opens between New York and New Jersey.

The 15 millionth Model “T” Ford is produced.

I.P. Pavlov writes about “Conditioned Reflexes”

Albert Hall improves fluorescent lamps.

The Film “The Jazz Singer”, starring Al Jolson, is the first talking film.

Sinclair Lewis writes “Elmer Gantry”.

Matisse paints “Figures with Ornamental Background”

Hopper paints “Manhattan Bridge”.

Daily Life:

Babe Ruth hits 60 home runs for the New York Yankees.

Sacco and Vanzetti are executed.

Airplanes are first used to “dust” crops.

Sonja Henie, ice skater, and Johnny Weismuller, swimmer, are the greatest athletes in their categories.

The Fox Trot is the most popular dance.

MUSIC

Lyrics

1927 Mississippi – Didn't It Rain

Copyright 2001 lyrics and music composed by Craig Edwards

Recorded at American melody Studio, Guilford CT

Musicians: Wild Goose Nation –

Craig Edwards – vocal, guitar, slide guitar, fiddle

Mike Fischman – guitar, mandolin, harmonica

Dirck Westervelt – bass, banjo, piano

Alison Kelley – vocal

Recording Engineer – Phil Rosenthal

Produced by Craig Edwards

Cotton nearly ripe for picking
and the dust lies on the ground
the bees are buzzing and the birds are singing
on the farms and in the towns
Not a cloud in the sky on Sunday
and Monday just the same
but the sky turned dark on Tuesday
and Wednesday it started to rain
and it rained the whole day Thursday
Friday and Saturday too
Sunday, Monday, Tuesday, Wednesday, Thursday, Friday
and Saturday it rained right through

And didn't it rain, oh it rained, well, didn't it rain
It rained both night and day
If the rain don't stop by the middle of the week
It's gonna wash this cotton away

And the rain kept up through harvest
too wet for makin' hay
can't pay the store on a half a crop
if the rain wash it all away
and it rained most of September
October and November too
December, January, February, March
and all April it rained right through

And didn't it rain, oh it rained, yes, didn't it rain
It rained both night and day
If the rain don't stop by the middle of the month
It's gonna wash this farm away

Lyrics for 1927 Mississippi Flood – con't

And the river started raging
high water is a-coming on
the gangs on the levees they was shovelin' sand
Stackin' bags from dawn to dawn
will the levee hold in Davenport
or over on the Arkansas shore
I saw the water blow brown through a hole in the ground
and the levee didn't hold no more

And didn't it rain, oh it rained, didn't it rain
It rained both night and day
if the rain don't stop by the middle of the year
It's gonna wash this valley away

Some stayed because they wouldn't believe,
Some stayed to put up a fight
But the muddy water covered over all the land
just like the darkest night
some crowed on the levees
and some starved or drowned or fled
but the water never dropped 'til the rain stopped
and the river gave up its dead
I used to stand in my dry and dusty field
praying, "Lord, send a little rain!"
now my field and my farm and my family
I never will see'em again

And didn't it rain, oh it rained, didn't it rain
it rained both night and day
if the rain don't stop...
It's gonna wash this world away
And didn't it rain, oh it rained, didn't it rain
It rained both night and day
If the rain don't stop...
It's gonna wash this world away.

ALL ABOUT FLOODS

Floods

There are various types of flooding based on where they occur.

A flood is a high flow or overflow of water from a river or similar body of water, occurring over a period of time too long to be considered a flash flood. It may also be referred to as a river flood.

Flooding is caused in a variety of ways. Winter or spring rains, coupled with melting snows, can fill river basins too quickly. This is what happened in the late summer and fall of 1926 causing the great flood in 1927. Repeated heavy rain from thunderstorms over a period of weeks contributed to the Mississippi River Flood of 1993.

STUDENT ACTIVITY:

- 1. Make photocopies of the map transparency so each student has one.**
- 2. Begin the narration about the rainfall in 1926 and 1927.**
- 3. Have students color each state where there was rain that ran into the Mississippi**
- 4. As you progress through each month have students change color as indicated.**
- 5. By the time you read the April 1927 rainfall students will understand why the levees broke and floodwaters poured out.**

ALL ABOUT FLOODS STUDENT ACTIVITY

STUDENT ACTIVITY: Color Map to music CD and Narration by teacher. Play the CD of Blues music.

TEACHER NARRATES FACTS ABOUT THE RAINFALL IN 1926-1927.

In August 1926, heavy continual rainfall began in the following states: Nebraska, South Dakota, Kansas, Oklahoma, Iowa, Missouri, Illinois, Indiana, Kentucky, and Ohio

Color States Yellow. (September 1st there was flooding from Carroll, Iowa to Peroria Illinois).

September 1926 - more rain in Nebraska, Kansas, Iowa, Illinois, and Indiana.

Color States Green (11 people died)

September 13th 1926 – 15 inches of rain fell in 3 days in Iowa

Color Iowa Purple (10 people died)

October 1926 - Flood in Nebraska, South Dakota, Oklahoma, Kansas.

Color states Blue (flooding most disastrous ever in October when rivers are usually low).

December 1926 - 29 inches of snow in Montana, South Dakota, 20 inches snow in Minnesota, drifts 10 ft. high. Arkansas had 5.8 inches of rainfall, and Tennessee had 4.11 inches.

Color states Grey (10 people died)

ILLINOIS CENTRAL AND COLUMBUS & GREENVILLE RAILROADS STOP TRAINS FROM CROSSING THE MISSISSIPPI RIVER !!!!!!!!!!!

January 1st 1927 - Mississippi River reaches flood stage at Cairo, New Orleans has the heaviest rain in 52 years. From the Rockies to the Ozarks a blizzard of snow and torrents of rain covered the United States.

Color the entire map Yellow

January 23rd to 28th 1927 - Floods in Ohio, Illinois.

February 4th 1927 - Massive flooding in Arkansas (leaves 5,000 homeless)

February 11th 1927 - Massive flooding in New Orleans 5.54 inches of rain fell.

Color these states Brown

STUDENT ACTIVITY CON'T

March 2nd – 5th 1927 - Severe snow blizzards, record snow fall in Wyoming, Colorado, Kansas, Nebraska, Oklahoma, Missouri, Texas, Virginia, North Carolina, Tennessee.

Color these states Orange. (Tennessee River Floods)

March 15th – 16th 1927 - The State of Mississippi has a torrential 5-6 inches of rainfall.

Color this state Dark Orange.

March 17th – 20th 1927- more torrential rain in Mississippi plus 3 tornadoes.

Color this state Red (45 people died)

March 29th 1927- In Arkansas the Laconia Circle Levee collapses Red Cross gathers in Natchez, Mississippi to plan refugee camps.

March 31st 1927- At St. Louis the Mississippi rises 6 feet in 24 hours

Color the River Red.

April 1927 - The rain continued everyday.

Color western half of Tennessee, City of Cario, states of Arkansas, Louisiana, and Mississippi Black.

WEATHER AND FLOOD HEIGHT

Using the map transparency point out: the drainage basin of the Mississippi River covers 41% of the United States, including 31 states.

These facts are from the Mississippi River Flood Control Association

Flood Height:

1973 - 51.6 feet

1929 - 52.9 feet

1937 - 53.2 feet

1927 - 62.2 feet (is the estimate if the levees had held)

16.5 million acres were flooded.

300 people died.

637,000 people mostly in Mississippi, Louisiana and Arkansas were forced to leave their homes.

LEVEE FACTS (averages from RISING TIDE by John M. Barry):

“A levee is like a fortress. The crown is flat at least 8 feet wide and the sides had a 3 to 1 slope, so a levee 30 feet high would be at least 188 feet wide. Though made of earth they were precisely engineered. Between the levee and the river lay the ‘barrow pit’ and the berm. This was the land between the river’s natural bank and the levee; often a mile or more wide, it was usually forested (even if it required planting willows) to protect it from waves and wear.”

“Then came the barrow pit. It served as a dry moat. The river had to fill it before reaching the levee. This pit was usually 300 feet wide and 14 feet deep at its deepest point, closest to the river.”

“A dozen things can cause a levee to collapse. A piece of wood, a branch, left in a levee during construction could rot and cause disaster. Soil can be a weakness. The current, roaring down river at 10 miles an hour, can scour out the levee vase, eat away at it. But the biggest danger is simply pressure. Water seeking it’s own level does not simply run over the top of a container; it presses against the sides.

CONDUCT AN EXPERIMENT WITH A CARDBOARD BOX, TAPE THE BOTTOM WITH ELECTRIC TAPE, FILL SLOWLY WITH WATER. WATCH WHAT HAPPENS TO THE SIDES. It is helpful to do this experiment outside or in a large tub. As the water rises the sides of the container bend outward due to the water pressure. It proves Newton’s 3rd Law – for every action there is an equal and opposite reaction.

TEACHING PROCESS A

QUESTION AND BRAIN STORM WITH STUDENTS

EXAMPLES:

A.) *How many of you have experienced a weather event or disaster?*

B.) *Tornado, earthquake, hurricane, dust storm, powerful snow storm, flood or other?*

Engage students in a brief first hand account.

Point out that this is a first hand account and that is like an oral history.

Refer back to the oral history that you began with students will end the workshop by writing a first hand account form the point of view of their character.

Make sure the students understand first hand account. Have several students give another first hand account.

Point out that first hand account includes what people see, hear, smell and feel. Point out where that was demonstrated in the first hand account they heard in class.

Share your own first hand account of a weather or natural disaster.

ORAL HISTORIES

Teacher READ TO THE STUDENTS THESE ORAL HISTORIES:

The most terrifying moment of most people in Mississippi came on April 21st, 1927 at 8:00am when the levee broke at Mounds Landing. A wire went to Army Corp of Engineers, "Crevasse will overflow entire Mississippi Delta".

Sam Huggins:

"When the levee broke, the water just come whooshing, you could just see it coming, just see big waves of it coming. It was coming so fast till you just got excited, because you didn't have time to do nothing, nothing but knock a hole in your ceiling and try to get through if you could. It was rising so fast till peoples didn't get a chance to get nothing. People and dogs and everything like that on top of houses. You'd see hogs trying to get somewhere where people could rescue them. Cows just bellowing and swimming. A lot of those farmhouses didn't have no ceiling that would hold nobody."

Cora Walker:

"An airplane kept flying over, real low, backwards and forwards, Told us we better get to the levee. A lady was coming to the levee, had a bundle of clothes on her head and a rope around her waist leading a cow. Suddenly the water come tearing. She and the cow both drowned. Just as we got to the levee we turn our back and saw our house turned over. We could see our own place tumbling, hear our own things falling down, and a grinding sound. And here come another house floating by the water was stacked. The waves were standing high, real high. If they hit anything they got it. Every time the waves came, the levee would shake like you were rocking in a chair."

Teacher: Discuss with students their impression of the oral histories. Point out how often Cora and Sam remark on what they hear, see, and feel. Discuss the students' emotions as well as those of Cora and Sam. Remind them that they will write their own first hand account at the conclusion of the programs.

TEACHING PROCESS B

- 1) Remind students that Oral History is like a first hand account
- 2) Listen to the CD by Craig Edwards
- 3) Read an Oral History of the flood using the instrumental section of the CD by Craig Edwards (see resources for suggested histories).

THEATRE SECTION

4) TEACH IMPROVISATION FUNDAMENTALS

Ask if anyone can define improvisation. Coach the answers. Practice “Yes, Yes, Good”, as you do it. These are the ground rules for improvisation and are very simple.

“Say yes to your creative ideas, say yes to the creative ideas of other people. Above all make one another look good.” “Yes, Yes, Good”. *

* Make sure there should be no making fun or mocking others

5) TEACH TABLEAU

A tableau is like a frozen picture. Give examples of tableau. Demonstrate this with two sets of students then demonstrate on yourself. Then have someone else demonstrate a solo tableau. Next show them another position that happens three minutes later in time with the same character. Each tableau should evoke a frozen picture, a moment frozen in time. Then show them in a third position with the same character one minute later, so it becomes a progression of stills (still photographs). As they demonstrate, coach students to use examples of activities from daily life; like hair brushing, tying shoes, reading, putting away groceries.

The students will eventually perform tableaux from another time. The time is 1927. A time before television, before most people had telephones, washing machines, and electric or gas stoves. Prompt students by using the example of a typical preparation of the evening meal: from carrying the water in a pail, to setting the table, to placing the wood in the wood burning stove. The purpose is to engage Bodily Kinesthetic Intelligence to gain the experience of physical effort it took to live.

TEACHING PROCESS C

1. Students clear an open space and place their chairs in a large 'U' shape.
2. Teacher shows the transparencies on the over-head, with the picture of many refugees on the landing last. Keep this photo on the screen.
3. Play cut # four on the CD "Forty Days and Forty Nights"
4. Introduce student to the idea of creating families. Each student will select a face in the crowd of the photo from the landing. As in any tapestry program a student may be a different age or race and is encouraged to continue the experience standing in the shoes of someone different from themselves. (we do this by honoring the people who are in the photograph, refraining from jokes and never allowing "hate" words at any time however historically accurate).

Before students choose their character name, age and so forth discuss with them that variety and conflict that make up theatre. So we get human beings that are very different.

Some were victims

Many human beings were affected by the flood 637,000 people had to flee their homes. 300 people died. Fleeing people are called refugees; they were running for their lives.

Some were responsible

In 1879 the Congress of the United States established the Mississippi River Commission to work out a unified plan of flood control and navigation. Engage the class in a discussion of the importance of navigation and building levees.

Some were heroes

Some people were also heroes because so many helped by volunteering, through the Red Cross, doctors, nurses, neighbors, and some were just ordinary people helping out their community. Brainstorm who might have helped.

Some were villains

But others were villains. Some of the men dynamited levees up river so their own land would be spared. Others took advantage by making people live on top of the levees in refugee camps and forcing them to wear tags so they couldn't leave, they were forced to work to strengthen the levees, and abusing their authority.

Victims, heroes, villains, and those responsible for the event are all types of characters in plays.

TEACHING PROCESSES D TIPS ON HOW TO INTERVIEW

Allow and encourage students to spontaneously connect with other characters and make offers to other characters. Be sympathetic the interviewer is on the side of whomever is being interviewed. The interviewer is not a judge but one who gets the whole story. They have the ability to jump in and out of character to comment or decode a story.

Even if the person you are interviewing is a “bad character”; you have to agree with them to get the story. This is especially important when dealing with a villain character or one who takes advantage of others. No attempt should be made to change them.

Living through the events though villains may decide to undergo a change themselves. This is what we hope for and what we want to occur. Here is where we have an opportunity for transformation, which sometimes has a domino effect on the class.

The students do not have to impersonate someone who really lived, instead the characters should be fictitious (based upon ideas of who these folks might be). Students are able to create a character the way a writer might.

Ask questions until a character emerges. Do this with as many students as you need until you have some stories. Guide this piece to make stories.

The stories are essential and will create the empathy when some characters drown at the end. It creates emotional bonds between the students. The emotional bonds are essential for success, as are the stories and the success of the process.

This section will take the most time, but without it the processes is limited in effectiveness.

TEACHING PROCESS E SWEPT AWAY

RIVER SEQUENCE: Put the instrumental portion of Craig Edwards CD on the CD player and play the music when doing this section.

- a) Preparation: Students resume chore tableau, move, then freeze.
- b) They are instructed to repeat their chores in slow motion and three times as big. FREEZE.
- c) They hear the cattle lowing, a loud roar, then they are swept into the river.
- d) Still in slow motion, with big, exaggerated movements, they try to swim to shore. FREEZE.
- e) In slow motion, they try to grasp, to wrap themselves around an uprooted tree. FREEZE.
- f) In slow motion, they are sucked under but fight to the surface, wave their arms, call for help. FREEZE.

PRACTICE THIS SEVERAL TIMES TO THE MUSIC

- g) Enactment. Students move river to position 'B' as teacher narrates the weather section again. Have music playing.
- h) Some students observe some raise and roll the river, and some travel through (under the fabric) the river.
- i) Students in the river may choose one of the three images as they travel: swimming, grasping, or surfacing. They are to move the length of the cloth in their own way, in their own time (but with slow, big movements). Also, they are to freeze into a tableau three times during their passage. Leader gives kinesthetic prompts as they go, like 'you feel your muscles straining with all their might,' 'you hold your breath, then gasp for air,' 'using your whole body – your arms...your legs...your back...your face.'

Have students change roles until all have traversed the river. The seats on the left are for those who are swept away, the seats on right are for those who survive.

TEACHING PROCESS F WRITING

After the students raise the river to various heights end up with it over their heads. The other players now stand and one by one they slide into the river and drown. The river swallows them up. Moving and churning the fabric will make it very symbolic. Add music and let the river roll until all complete with the journey. Then the river descends slowly as if receding. Allow time to process this silently. Refold to Position 'A'.

WRITE A FIRST HAND ACCOUNT (ORAL HISTORY) FROM YOUR CHARACTER'S POINT OF VIEW)

Students now resume their seats. Take a pen and paper and write a first hand account from their character's point of view. If a player's character dies in the river the account will be from their 'spirit' who will speak from the other side. There are many theatrical precedents such 'spirits' speaking, such as the characters in "OUR TOWN" and "UNDER MILKWOOD".

Try to leave time for all students to read their oral histories, encourage students to rewrite them, and bind them together as a part of the Great Mississippi Flood of 1927.

Reflect and decode with students.

FLOOD CONTROL ATTEMPTS

The flow of the river is greatest in the spring, when heavy rainfall and melting snow on the tributaries (especially the Missouri and the Ohio) cause the main stream to rise and frequently overflow its banks and levees, inundating vast areas of the plain.

Since the disastrous flood of 1927 the U.S. Congress has authorized the construction of dams on the upper Mississippi and its tributaries to regulate the flow.

The building of c. 1,600 miles (2,580 kilometers) of levees below Cape Girardeau to contain the swollen river. The establishment of floodways to divert water at critical points, such as the Cairo-New Madrid, Archafalaya, Morganza floodways and the Bonnet Carre Spillway at New Orleans diverts water into Lake Pontchartrain.

Cutoffs have eliminated the dangerous winding channels, and an improved main channel has increased the river's flood-carrying capacity. A 220-acre (89 hectare) model of the Mississippi River basin is located in Clinton, Mississippi, which has been used by the U.S. Corps of Engineers to simulate various conditions in the basin.

Nonetheless, serious, record-breaking floods again occurred in the rainy spring of 1973. The river crested at St. Louis at 43.3 feet (13.2 meters). Again in the summer of 1993, when the river crested at St. Louis at 49.6 feet (15.1 meters), it caused the death of 50 people, displacing 50,000 and causing \$12 billion in agricultural and property damage.

ERA OF GREAT ENGINEERING FEATS

SUEZ CANAL

In Egypt, the Suez Canal is the most important constructed waterway in the Eastern Hemisphere. It is c. 100 miles (160 kilometers) long, connecting the Mediterranean Sea (N) with the Gulf of Suez and the Red Sea (S). It has greatly reduced the distance by sea between Europe and South East Asia. It was built between 1859 and 1869 by the French engineer, Ferdinand de Lesseps.

BROOKLYN BRIDGE

The first steel wire suspension bridge in the world, it was built between 1869 and 1883, over the East River. It linked the boroughs of Manhattan and Brooklyn in New York City. The bridge was designed by J.A and W.A Roebling; it was the world's longest suspension bridge at the time of its completion.

GOLDEN GATE BRIDGE

One of the world's longest suspension bridges, it was built between 1933 and 1937. The bridge goes across the San Francisco Bay, in California. It has a main span of 4,200 feet (1,280 meters) and a total length of 9,266 feet (2,824 meters).

HARNASSING THE MIGHTY NIAGARA RIVER...

With the inventions of Stanley in transformers and of Tesla in polyphase motors the entire art of electric generation and utilization was changed. It was at this critical juncture, before their work was thoroughly tested, that The Niagara Falls Power Company was formed. The decision to adopt alternating current in the world's greatest powerhouse settled all doubt as to the universal adaptability of alternating current. This laid the foundation for the marvelous electrical development that followed: for Tesla's work received its first extensive application on the system of the Niagara Falls Power Company. From 1892 to 1894, the Niagara Falls Power Company built a 6,700 foot long, 21 foot high and 18 foot wide horseshoe shaped tunnel which was 160 feet underground. Twenty-eight workers died in construction related accidents during this project. The tunnel extended from the Niagara Power Company Powerhouse. The tunnel displaced 300,000 tons of rock and required 20 million bricks and 2.5 million feet of lumber to line and shore the interior.

CREATOR'S BIOS

KATHLEEN GAFFNEY

President of Artsgenesis,

Designer of The Great Mississippi Delta Flood of 1927

Kathleen Gaffney, winner of the first-ever U.S. Department of Education's "John Stanford Education Heroes Award" is a writer, a playwright, artistic director, actress and arts-in-education specialist. Ms. Gaffney is a nationally known keynote speaker on such issues as Multiple Intelligences Theory and the Arts.

As a writer and educational program designer she has written six plays, the first she co-authored, FRONTIERS, which Variety called "...nearly a masterwork." DIARY OF A HOSTAGE'S WIFE, HILL FARM, CHALLENGE HER, 171 JAZZ BOULEVARD followed. SURRENDER co-authored with Christopher Eaves, ran in New York at the St. Mark's Theatre in the summer of 2000 to sold out houses and standing room crowds. All these works were precise in their historical research. When she designed and directed the theatre process Techno-Free VIRTUAL THEATRE, which premiered Off-Broadway in 1996, Kathleen found the perfect platform for arts integrated interactive program design. Shortly thereafter, Ms. Gaffney created Civil War Tapestry, Echoes of the Holocaust and Westward to Kansas for educators.

Kathleen has written for the soap opera Guiding Light. As an artist developer, Kathleen's views are featured in "Artists in the Community: Training Artists to Work in Alternative Settings", published by the Americans for the Arts. Her book, "Take It To The Top – Monologues From the Multicultural Experience" is published by Firestein Books. In 1992, Ms. Gaffney co-founded Artsgenesis, Inc., a non-profit arts-in-education organization that ignites creativity and accelerates learning.

Artsgenesis, Inc.

Web Site: www.artsgenesis.com

E Mail: info@artsgenesis.com

Phone: 212-696-2787

Fax: 212-741-1925

CHRISTOPHER EAVES

Christopher is an actor, playwright, sound illustrator, web designer, visual artist, and a corporeal mime he has studied with Marcel Marceau. He has created an exciting body of work for the theatre as both a collaborator and a solo artist. His first play THREE was awarded "Best New Work" at the 1989 Mid-Atlantic Movement Theatre Festival. SURRENDER, co-written entirely via e-mail with Kathleen Gaffney, while he was in London, training with Steven Wasson and Corinne Soum at the Ecole de Mine Corporeal Dramatique. SURRENDER played to sold out houses as part of the New York International Fringe Festival. His multimedia performance piece TRUE MYTH premiered at the Blue Heron Performing Arts Center in Manhattan in August of 2001.

1999 marked the launch of Eavesdrop; a New York based arts company specializing in new-form performances, arts education, graphic design, and sound environments. Eavesdrop is the incorporation of the diverse disciplines which Christopher engages for the realization of his interdisciplinary art.

WEB SITE: www.eavesdrop.com

MUSIC SELECTIONS ON CD

1. Sliding Delta – MISSISSIPPI JOHN HURT
2. High Sheriff Blues – CHARLEY PATTON
3. Rising High Water Blues – BLIND LEMON JEFFERSON
4. Forty Days and Forty Nights – MUDDY WATERS
5. Tupelo – JOHN LEE HOOKER
6. Back Water Blues - DINAH WASHINGTON
7. Mississippi Delta Blues (excerpt) – JIMMIE RODGERS
8. Death Letter – SON HOUSE
9. Hard Day Blues – MUDDY WATERS
10. Back Water Blues – BESSIE SMITH
11. Get Down River – BOTTLE ROCKETS
12. Grits Ain't Groceries (All Around the World) – LITTLE MILTON
13. Catfish – BIG JACK JOHNSON
14. I Did My Best – SOUL ASYLUM
15. Mississippi Delta Blues – LEON REDBONE

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Glossary

ALLUVIAL (alluvial deposit, alluvium, alluvion) – clay or silt or gravel carried by rushing streams and deposited where the stream slows down.

BACKWATER FLOODING– This happens when the main river is so high that a tributary cannot empty into it, water from the main river can actually push water upstream into the tributary.

DELTA – a nearly flat plain of alluvial deposit between diverging branches of the mouth of a river, often, though not necessarily, triangular.

LEVEE – an embankment designed to prevent the flooding of a river

REFUGEE – someone who seeks refuge, from religious/political persecution, or a natural disaster.

RIVULET – a small stream; streamlet; brook.

SEDIMENT – insoluble solid particles that have settled at the bottom of a liquid in which they were previously suspended.

TRIBUTARY – a stream that flows to a larger stream or other body of water.

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