

## **Should New Orleans be Rebuilt?**

***Melissa L. Blair***

### **Introduction/Rationale**

“No Place in America fights Mother Nature the way New Orleans does” –Chris Erskine, 2008

I’m currently writing the opening paragraph of this unit as I brace for hurricane Sandy, a superstorm projected to make landfall in the Mid-Atlantic. This is not my first experience with hurricanes. In fact, this is number seven over the course of the last decade. All hurricanes are undoubtedly unique and justifiably nerve wracking, serving as annual reminders of man’s inability to control nature, the alarming effects of global warming, and the realities of living near the coast. When a hurricane nears the U.S. shores, New Orleans and hurricane Katrina are frequently highlighted in the news media, acting as haunting memories of what can go wrong during a storm. Newscasters, state, and city officials alike often urge U.S. residents in the dangerous pathway of a hurricane to stock up on food and supplies and to evacuate when deemed necessary. When in doubt, don’t be like the residents of New Orleans! Most recently, once again, New Orleans was in the news due to hurricane Isaac, the questionable strength of the partially rebuilt levees by the Army Corps of Engineers, and the devastating flooding that consequently occurred in the greater New Orleans area such as in Slidell.

My personal ties to New Orleans drove me to create this unit, one that would rightfully detail the unique geography (site and situation), history, and culture of this great city. I lived in New Orleans pre-and-post Katrina and lost my house to the “Great Deluge” along with my entire neighborhood. I helplessly watched 85% of New Orleans proper fill up with water because of the 28 levee breaches throughout the city. The widespread flooding in New Orleans and other Gulf Coast communities in 2005 caused nearly 1,400 deaths and forced several hundred thousand people from their homes a.k.a. the “Mass Exodus.” Americans watching television were shocked by the plight of residents stranded by the flooding: the squalid conditions in the evacuation centers, the lawlessness in the streets of New Orleans, and above all the unsatisfactory response of emergency management officials. Frankly, I didn’t fully appreciate New Orleans until I almost lost her.

Prior to Hurricane Katrina, New Orleans residents typically evacuated in a haphazard manner, sometimes packing important documents, gassing up the car, or simply seeking refuge in a neighborhood bar to ride out the storm with other strangers. Dealing with hurricanes was a way of life in New Orleans, a rite of passage for a transplant like me. In fact, I didn’t take Hurricane Katrina seriously and only chose to evacuate last minute after a friend cautioned me to “not just walk to the Superdome as a backup plan.” I eventually evacuated to Delaware to be with family and to attend the University of Delaware because Tulane University experienced extensive flooding. While I experienced incredible demonstrations of generosity, I equally encountered numerous insensitive and ignorant people, whom upon hearing I was from New Orleans, rudely questioned why I lived in a “fish bowl,” even suggesting that New Orleans be completely bulldozed and its residents forced to migrate to higher ground. In the eyes of these naysayers, New Orleans didn’t matter. Simply put, New Orleans was a city that shouldn’t have been settled in the first place. But what value can we put on places of historical, cultural, and economical significance? Who should decide where people live? New Orleans and Coastal Louisiana is truly the best place to contemplate these historical and geographical dilemmas.

Since Katrina, I have become an outspoken and perhaps an annoying advocate of New Orleans, even though I now reside in Delaware. Therefore I feel it’s necessary to not only discuss the complex post-

Katrina terrain of New Orleans but also if the New Orleans utopian plan of building extensive levees and canal systems as a defense against rising waters, storm surges, and hurricanes should be used as a model by other equally vulnerable coastal cities such as Washington D.C. and New York City. In short, I strive to focus on what lessons New Orleans can offer to the rest of America. Questions that will be discussed throughout the unit include: Should New Orleans be fully rebuilt and restored? If so, should New Orleans be restored solely for its cultural value? Is New Orleans located well or was it a mistake? Should residents of New Orleans remain in eroding marshes and continue centuries of tradition, or end their way of life and move inland so that aggressive coastal restoration may commence? Should the U.S. government maintain all low-lying, far-flung neighborhoods and trust that levees will protect New Orleanians? These dilemmas are particularly applicable in light of the massive damage from superstorm Sandy, which recently devastated parts of low-lying coastal New Jersey and several New York City boroughs. In fact, parallels can easily be drawn between New Orleans and New York City.

Somewhat similar to New Orleans, New York City is highly vulnerable to hurricanes as a consequence of several factors. New York City has many high buildings and bridges, numerous vital underground systems that are prone to flooding, and the edge of the city (highly vulnerable to flooding) is full of vital facilities i.e. financial hubs, schools, hospitals, colleges, and other emergency services.<sup>i</sup> It's also worth noting that New York City is one of the most populous cities in the United States. Additionally, New York City is losing tidal marshes at a frighteningly rapid pace due to the global rise in sea level and development, making it increasingly vulnerable to hurricanes.<sup>ii</sup> In the past, oysters in the trillions played a critical role in stabilizing the shoreline from Washington D.C. to Boston. These oyster beds created undulation and contour on the harbor bottom, breaking up wave action before pounding the shore with full force. Beds closer to shore clarified the water through their assiduous filtration (a single oyster can filter as much as 50 gallons of water a day); this allowed marsh grasses to grow, which in turn held the shores together with their extensive root structure.<sup>iii</sup> In short, fewer oysters equates to more problems. Furthermore, the disappearance of the Arctic sea ice is playing a substantial role because the rise in sea levels is making low-lying neighborhoods such as the Lower East Side highly vulnerable to flooding. In response to these environmental pressures, ideas are being generated as to how to best protect New York City. Ideas include: making man made islands, controlling the development of industrial and chemical plants, building higher sea walls, and trying to change public consensus about global warming. However these measures will most certainly cost the U.S. government billions of dollars. Should U.S. tax payers be forced to protect New Yorkers from the harsh realities of their environment?

By utilizing a historical geographical approach, one partially inspired by Jared Diamond's *Guns, Germs, and Steel* and *Collapse*, I aim to educate others about New Orleans from the perspective of a New Orleanian and to directly address specific content standards from four major units of study in my Advanced Placement human geography course: urban planning, migration, culture, and sustainability. Overall, the intent of this unit is to educate high school students about the significance of New Orleans in a geographical, historical, and cultural framework. The unit will be broken up into five main topics: why New Orleans matters, the site and situation of New Orleans, hurricane Katrina, rebuilding efforts in New Orleans, and whether or not New Orleans is an appropriate model of flood prevention for other coastal cities. By first providing students with a historical background, they'll better appreciate the uniqueness of the city and understand why it was settled in the first place. Lastly, by lecturing on the culture of New Orleans and by discussing the impact of hurricane Katrina, students will better grasp not only the magnitude of devastation but also the high stakes involved in rebuilding New Orleans.

## Demographics

Conrad Schools of Science is a grade 6-12 magnet program focusing on excellence in Biotechnology and Allied Health. With outside funding from companies such as AstraZeneca and DuPont, the mission of the school is to prepare students of varying abilities for higher education at college or universities, or post-graduate entry into health care professions. Therefore, it provides a concentrated, focus curriculum

coupled with real-world experiences and project-oriented work. The school has been in operation for six years and serves a diverse student population. I currently teach three 6<sup>th</sup> grade social studies classes per day due to an A/B block schedule to maximize learning and an Advanced Placement human geography course (9-12) that's academically rigorous and requires students to take an end of the year exam administered by the College Board. The school is located just outside of Wilmington and consists of students living within the city limits as well as the surrounding area. There is strong parental support. Parents attend school functions and the Parent Teacher Association (P.T.A.) is attended by about 100 parents per month. I'm the only teacher offering AP human geography in the district and the course is taught in the distance learning lab.

A.P. human geography is currently taught as a yearlong distance learning course with A.I. high school. The student enrollment is approximately twenty students. Since this is a distance learning course, I had to learn new and creative ways for how to incorporate web 2.0 tools into the classroom and to re-evaluate the delivery of my instruction. For example, I now maintain a website, a blog, and I use online videos and Gmail chat. Few technological limitations exist in the lab, greatly influencing how I implement my units.

The A.P. human geography course emphasizes the importance of geography as a field of inquiry and briefly discusses the emergence of academic geography in nineteenth century Europe. The course introduces students to the importance of spatial organization—the location of places, people, and events, and the connections among places and landscapes—in the understanding of human life on Earth. Geographic concepts emphasized throughout the course are location, space, place, scale, pattern, regionalization, and globalization. These concepts are basic to students' understanding of spatial interaction and spatial behavior, the dynamics of human population growth and movement, patterns of culture, economic activities, political organization of space, and human settlement patterns, particularly urbanization. Students learn how to use and interpret maps. Additionally, they learn to apply mathematical formulas, models, and qualitative data to geographical concepts. The course also makes use of the concept of the region, encourages students to consider the regional organization of various phenomena, and enables students to create regions in order to illustrate process. A significant outcome of the course is students' awareness of the relevance of academic geography to everyday life and decision making. This combination of the academic and the applied gives students a sophisticated view of the world and an understanding of the manifold applications of what they have learned in the course.

In my opinion, all Delaware students should have access to a geography course at their high school. This is why I permit any interested high school student to take my course, even as an independent study. In both my 6<sup>th</sup> grade classes and A.P. human geography, I make geography fun by having students "do geography" by using case studies, going on field trips in the local community, and doing interactive activities that get them moving. Geography is not memorizing countries or doing textbook work. Most importantly, students need to personally relate to the content and in a real-world context. By teaching geography in the classroom, I give students a sophisticated view of the world and I increase each student's awareness of the relevance of academic geography to everyday life and decision making.

## **Enduring Understandings**

1. Places are unique associations of natural environments and human cultural modifications.
2. Concepts of site and situation can explain the uniqueness of places. As site or situation change, so also does the character of a place.
3. Understand the Earth's physical environment as a set of interconnected systems (ecosystems) and the ways humans have perceived, reacted to, and changed environments at local to global scales.
4. The human response to the characteristics of physical environment comes with consequences for both the human culture and the physical environment.
5. The way mapped patterns are analyzed and used help solve societal problems.
6. Propose a realistic and creative design for specifically rebuilding New Orleans.

7. Evaluate to what extent hurricane prone urban areas such as New Orleans and New York City should be rebuilt.

## Essential Questions

1. What is culture? Why is it important to understand culture?
2. Why are some places more culturally diverse or similar than others?
3. To what extent can people predict the consequences from human alterations to the physical environment?
4. Why might focusing on how people perceive the risks and resources of the natural environment help to explain human behavior in different parts of the world?
5. How might regional analysis help to solve societal problems?
6. What are some of the key issues that planners should take into account when re-designing a neighborhood or city?
7. To what extent should New Orleans be rebuilt? New York City?

## Why New Orleans Matters

“Everyone who loves New Orleans learns to love it with its flaws. It may be hard for people who have never been to the Crescent City to understand the passionate love people have for it, to understand why it’s worth fighting for-why it matters.”<sup>iv</sup>

New Orleans is one of the oldest cities in America, with nearly 300 years of history, unlike any other city in the country. New Orleans, known for its jazz funerals, Mardi Gras, French Quarter, street cars, Café du Monde, *muffulettas*, neutral ground, crawfish, Yats (New Orleanians who speak the local dialect), hurricanes, gumbo, levees, Bourbon Street, red beans ‘n rice, swamps, and the nutria rat can be described as a cultural region, an area marked by culture that distinguishes it from other regions. In simple terms, culture is defined as a complex mix of values, beliefs, behaviors, and material objects that together form a people’s way of life.<sup>v</sup> Most social scientists are interested in the study of culture, but geographers specialize in the ways that culture affects the natural environment as well as the spatial organization that culture stimulates. Culture can be divided into two types: non-material and material culture. Non-material culture is a type of culture that consists of abstract concepts of values, beliefs, and behaviors. On other hand, material culture is a type of culture which includes a wide range of concrete human creations, called artifacts. New Orleans derives its unified character through its cultural landscape-a combination of cultural features such as language and religion, economic features, such as agriculture and industry, and physical features such as climate and vegetation.

New Orleans is arguably one of the most culturally unique cities in the world. It’s a city where people don’t learn history-they live it. Today New Orleans has more than 35,000 buildings on the National Register of Historic places, 15,000 more buildings than its closest competitor; Washington D.C.<sup>vi</sup> New Orleans is also the birthplace of jazz and home to the oldest opera house in America. The Crescent City is universally recognized as one of the top three culinary destinations in the world, a tribute to the indigenous Creole cuisine that is found only here and is an outgrowth of the city’s unique blend of nationalities and cultures. Additionally, prior to Katrina, the St. Charles Avenue Streetcar was the oldest continually operating streetcar line in the world. Economically, New Orleans matters too!

The port of New Orleans is one of the busiest ports in America; more than 6,000 vessels move through New Orleans annually along the Mississippi River, making it integral to the country’s economic stability. It’s the leading port for the movement of imported steel, the nation’s top port for imported natural rubber, and it’s the premier-coffee handling port.<sup>vii</sup> Without New Orleans, the United States would have to find alternative suppliers for many of the country’s consumer products. Additionally, Louisiana’s fishing industry is the second-largest in America, accounting for twenty-six percent of all sea food landing in the

country and forty percent of all seafood consumed by Americans each year.<sup>viii</sup> All too often, U.S. citizens under emphasize the economic significance of New Orleans, questioning its site.

## The Site and Situation of New Orleans

Modern New Orleans is the lowest-lying and flattest metropolis in the nation. After Hurricane Katrina, observers worldwide pondered how New Orleans could have ever been settled. Yes, New Orleans is a challenging site for a major city. But what makes a city great is often its situation. Geographers describe the location of a place by site, the physical character of a place. Important site characteristics include climate, water sources, topography, soil, vegetation, latitude, and elevation. Site factors have always been essential in selecting locations for settlements, although people have disagreed on the attributes of a good site, depending on cultural values. On the other hand, situation is the location of a place relative to other places. Situation helps us understand the importance of location.<sup>ix</sup>

New Orleans was settled in 1718 by Sieur de Bienville, a French-Canadian nobleman who believed there needed to be a port near the Mississippi River. After consulting Native Americans in the area, he derived that the sliver of land near the Mississippi River and Lake Pontchartrain was approximately ten feet above sea level. Higher ground meant relative safety, security, and comfort. However, other geographers further postulate that Bienville's decision to settle New Orleans derived largely from rational and carefully weighted geographical reasons of accessibility, defendability, arability, natural resources, and a lack of better alternatives for the French colony.<sup>x</sup> If New Orleans had been settled upriver, the city would have been too inconvenient for coastal traffic and unable to deal with enemy incursions. In other words: good sites, bad situations. If Bienville had located New Orleans further east, such as near Mobile and Biloxi, he would have relinquished the critical Mississippi River advantage and still suffered flooding problems.<sup>xi</sup> Bienville's wisdom prevailed when historical parts of New Orleans, including French Quarter did not experience extensive flooding during Hurricane Katrina.

During the first year of settlement, the Mississippi River swelled and put New Orleans under a foot of water.<sup>xii</sup> Bienville never recorded open regret about his New Orleans decision, but he did occasionally betray second thoughts that would resonate with later generations of New Orleanians such as one made during the flooding that occurred after the Great Hurricane of 1722: "The River has been very high for three months and has overflowed in several places about New Orleans. It has destroyed several levees so that more than half of the lands of the inhabitants are submerged."<sup>xiii</sup> Repeatedly this trend of hurricanes and recovery punctuated the history of New Orleans. Partial inundations by the river afflicted New Orleans in 1719, 1735, 1785, 1791, 1799, 1816, 1849, and 1862, while inundations by the lake occurred in 1831, 1837, 1846, possibly in 1853 and 1854-55, 1856, 1861, 1868, 1869, 1871, and 1881. The Sauvé Crevasse of 1849 ranked as the worst inundation in the city's history until Hurricane Katrina and the levee failures of 2005, and remains the city's worst river-oriented deluge.<sup>xiv</sup>

In the early nineteenth century, New Orleans suffered from the Great Storm of 1915, but not nearly as badly as from Hurricane Katrina. Geographers postulate that there are several reasons for this occurrence. First, coastal wetlands spanned far more acreage and exhibited healthier conditions than they do today. In fact, an additional 2,000 square miles of marsh padded the populated regions of southern Louisiana in the early 1900s, acting as a buffer and absorber of gulf surges. Secondly, no major navigation canals allowed gulf waters to penetrate the city's heart. The economic drive to accommodate shipping resulted in the excavation of navigation canals such as the Carondelet Canal (1794), New Basin Canal (1838), Industrial Canal (1923), and the Mississippi River-Gulf Outlet Canal (1960s). As a result of these alterations to New Orleans natural landscape, New Orleans' soil was inadvertently deprived of replenishing water and sediment, causing it to sink below sea level.<sup>xv</sup> Thirdly, a state-of-the-science municipal drainage system had just been installed to pump out standing water from within the "New Orleans Bowl." That same system is now a century old and in dire need of being completely updated. Lastly, the urbanization of the

lakeside marshes had barely begun in 1915; most New Orleanians remained on higher ground closer to the Mississippi River.<sup>xvi</sup>

Since its settlement, humans have altered the landscape of New Orleans primarily for four reasons: to keep water out, to improve navigation, to remove water from within, and to create or shore up land. However, over the course of the last century, New Orleans experienced significant changes to its geographical landscape, exacerbating the damage of hurricane Katrina. The 1927 deluge flood quickly inspired passage of the Flood Control Act, which cemented the federal government's financial responsibility for, and engineering commitment to, a massively augmented Mississippi River flood control system.<sup>xvii</sup> Furthermore, the draining of the New Orleans back swamp radically altered the geography of New Orleans. This brilliant engineering solution that "drained dry" the back swamp encouraged people to settle in low-lying parts of the city and to develop a false sense of security. In order to keep water out, additional artificial levees were built and when several of these man-made levees failed during hurricane Katrina, half of the metropolitan area flooded along with three-quarters of New Orleans proper.

As discussed earlier, Louisiana has lost over 2,000 square miles of coastal wetlands-about one third of the Louisiana deltaic plain-since the 1930s. By controlling the Mississippi through the construction of artificial levees, the deltaic plain has been starved of annual deposits of replenishing freshwater and flood-borne sediments. When soil is drained of water content, through flood control or municipal drainage, it subsides under its own weight. At the same time, Gulf waters have gradually risen due to increasing global temperatures and the melting of ice sheets. Equally important, the dying coastal saltwater marsh grasses, destroyed by nutria or droughts, have rendered the dwindling land surface even more vulnerable to wind and water erosion. Undoubtedly, humans have accelerated this process due to modern river control, urban drainage, canal excavation, the oil industry, and fossil-fuel consumption. Most alarmingly, scientists agree that if current trends continue, the Louisiana deltaic plain will be mostly gulf water by the 22<sup>nd</sup> century.<sup>xviii</sup> Every 2.7 linear miles of wetland loss allows one extra vertical foot of seawater to surge inland in the face of the tropical storm.<sup>xix</sup> The coastal land loss from Hurricane Katrina and Rita alone equaled coastal land loss from ten years! Prior to the storm, New Orleans was losing critical wetlands at the pace of one football field every thirty-eight minutes.

The last significant storm to hit New Orleans was Hurricane Betsy in 1965 which claimed the lives of 81 Louisianans, injured 17,600, and caused \$372 million dollars in damage, about one-third in New Orleans proper. Consequently, the Army Corps of Engineers built levees around the basins flooded by Betsy, expanded residential developments into them, encouraged settlement, setting up for the next major disaster.<sup>xx</sup>

## **Should New Orleans be Rebuilt?**

"To be engaged in some small way in the revival of one of the great cities of the world is to live a meaningful existence by default"-Chris Rose, 2005.

Following Hurricane Katrina, people asked themselves, should the entire city come back? Or should the city redraw its urban footprint, permitting rebuilding on higher ground while allowing low-lying subdivisions to return to nature? Immediately there were several ideas put forth. The most controversial idea was the total abandonment of New Orleans, which did not truly appease anyone. At the opposite end of the spectrum were those advocating for the maintenance of the urban footprint at all costs. These "maintainers" saw this primarily as a humanist and cultural question, rather than a scientific or engineering one. To go against maintaining all neighborhoods meant going against people and culture. At the same time, there were those in the middle who advocated for the abandonment of low-lying areas most vulnerable to flooding and to increase populations in historical sections of the city, places originally

settled by Bienville himself. They argued that in the long run this would reduce cost, minimize future grief, protect the environment, and save lives. But was this plan fair to homeowners?

The “solution” after Hurricane Katrina was essentially to let people return and rebuild. In fact F.E.M.A. continued to make flood insurance available to heavily flooded areas, thus encouraging rebuilding. The entire urban footprint was allowed to rebuild. Residents did not necessarily flock to higher ground in record numbers as predicted. However, a greater percentage of New Orleanians, approximately 50%, now live above sea level than in the last century.

## Strategies

I recognize that strictly relying on lecture as a sole teaching strategy in the classroom is going to lead some students to fail. Therefore, I use as many appropriate teaching strategies as possible and I intentionally limit most lectures to no more than thirty minutes. On balance, I prefer discussions to lectures because they give students the chance to sort content, generate questions, and play “what if” scenarios.

### Maps to Develop Geographic Awareness

I use maps in my classroom on a frequent basis. Therefore, throughout this unit, students interact with physical, political, historical, and thematic maps. For example, during the second and fourth lesson, students study maps of New Orleans proper and the Gulf Coast region.

### Graphic Organizers/Vocabulary Development

Graphic organizers are used frequently in my course to aid in students’ comprehension of the material. At the beginning of each unit, I pass out a graphic organizer with a list of the vocabulary terms along with a knowledge ranking system. This pre-assessment asks students to identify which words they already know (1), which words they somewhat know (2), and which words are completely new to them (3). This helps students tap into their prior knowledge and prioritize which words they should focus on. Aside from ranking the words, students are often asked to generate examples, non-examples, and identify characteristics of each term. As a teacher, I ensure they receive multiple opportunities to interact with the vocabulary by requiring them to maintain a *Quizlet* account to create electronic flashcards, play games, and quiz themselves (a great anchor activity), encouraging peer instruction (students create games using SmartBoard tools i.e. jeopardy, wheel of fortune), and quizzing students on a frequent basis (fill in the blank, matching, multiple-choice). During whole class discussions, students are required to speak the “geography lingo.”

### Collaborative/Group Work/Peer Teaching

I put students into heterogeneous groups and I permit students to change seats often in order to improve student motivation and learning. I encourage group work because the novelty and variation provided by other learners increases learner momentum and relevance. Furthermore, I put students into groups because consistent feedback helps learners improve framework for learning and gather critical feedback. I make sure that cooperative activities are structured so that students can take ownership for major information points.

### Technology

Technology is undoubtedly an incredibly powerful, appropriate, and relevant pedagogical approach for social studies teachers. Technology can help students in A.P. human geography analyze and interrogate both historical and contemporary events and issues from multiple perspectives. This pedagogical

approach is considerate of the newest crop of students, currently in K-12, who developed under the digital wave and became completely normalized by digital technologies. It is a fully integrated aspect of their lives. Many students in this group are now using new media and technologies to “create new things in new ways, learn new things in new ways, and communicate in new ways with new people-behaviors that have become hardwired in their ways of thinking and operating in the world.” The use of technology in the classroom is an appropriate approach worth exploring because American classrooms must prepare students for future careers in institutions (business, industry, medicine, government, and science) which will expect them to be proficient in the use of computers and to be innovative and creative thinkers. Basically, they’ll be expected to harness the power of various technological tools in an increasingly interconnected world. But teachers should determine how technologically proficient students are and what their attitudes and beliefs are towards innovation before implementing anything in the classroom. Furthermore, teachers need to educate themselves (informally or formally) and be open to learning about different types of technology.

### Jigsaw Activity

In the jigsaw activity, students are first assigned to a group. Then the teacher puts them into smaller groups (expert groups) with the people who were given the same article. They discuss it and use guided questions provided. The purpose is for them to become an expert on the article. The second part of the activity involves peer teaching. The teacher puts students into different small groups with people who had different articles. Each person’s job is to explain to the “teaching group” the highlights of the article using questions discussed with the “expert group” as a guide. Each member of the teaching group explains their particular section in turn. Once everyone in the group has shared their material, the teacher should have them discuss questions that tie in with the main focus of the unit. Simpler options are to have the students read the assigned selections and then summarize the main points expressed in it. Due to the reading level of the text, this activity would be most appropriate for advanced students but teachers can modify the lesson by shortening the reading selection or by using quotes from the articles. Cooperative learning opportunities such as the one mentioned above have been attributed to gains in three major areas- academic achievement, intergroup relations, and social and affective development.<sup>xxi</sup>

### Classroom Activities

#### Lesson 1: Why New Orleans Matters (folk and urban culture, economy, and history)

Anticipatory Set: Direct students to fill out a K.W.L. chart (know, want to learn, learned) about New Orleans and share responses. Write answers on sticky notes and post onto board. Introduce essential questions, essential understandings, and ask students to respond to the main question for the unit: Should New Orleans be rebuilt? At the end of conclusion of the unit, have students revisit their responses and revise if necessary. Prior to this unit, students should already have a solid understanding of the concepts *culture* and *cultural landscape*, but review if necessary.

Activity: Introduce main lesson by telling students that they will learn about what makes New Orleans a culturally unique place. In a lecture format (PowerPoint), discuss music heritage, Mardi Gras Indians, Jazz Funerals, Creole and Cajun Populations, Mardi Gras, Port of New Orleans etc. Provide a visual or audio example of each major cultural attribute. For example: play Ragtime music and play a jazz funeral.  
Assessment: Have students in groups create an ad, encouraging tourists to visit New Orleans.

#### Lesson 2: The Site and Situation of New Orleans

Anticipatory Set: Ask students to differentiate between the terms *site* and *situation* and direct students to consider what makes a place ideal for human settlement. Show students several maps of New Orleans before asking them to consider the positives and negative aspects of New Orleans topography. Utilize

simple T chart to record answers. This introductory activity provides students with an adequate historical context and confronts misconceptions about the original settlement of New Orleans.

Activity: Use a primary source document by Bienville found in the Campanella book. Bienville famously complained about the frequent flooding in New Orleans, openly questioning the impractical nature of New Orleans. Have students share their reactions to his writing.

Assessment: Instruct students to write an extended response for the following question: Did Bienville make a mistake by settling New Orleans? Support your answer with a thorough explanation.

### Lesson 3: Hurricane Katrina and the “Great Deluge”

Anticipatory Set: Write “Hurricane Katrina” on the board and have students record descriptive words they associate with it. Share and discuss responses.

Activity: Show actual footage from Hurricane Katrina from documentaries such as “When the Levees Broke: A Requiem in Four Acts.” In particular, share moving accounts by Hurricane Katrina survivors and the infamous image of the levee failing in Lake Pontchartrain, the one that eventually flooded downtown New Orleans.

Assessment: Instruct students to write an extended response to the following question: Was Hurricane Katrina a man made or natural disaster? If time permits, have students orally debate the question.

### Lesson 4: To What Extent Should New Orleans be Rebuilt?

Anticipatory Set: Ask students the following question: Should New Orleans be rebuilt? Instruct them to physically move to different sides of the classroom after choosing a side: agree, disagree, strongly agree, and strongly disagree.

Activity: Show class maps of New Orleans proper (acquaint students with actual layout of the city). For example: show low-lying areas such as Lower Ninth Ward and Mid-City. Offer the following discussion question: the rebuilding of New Orleans will be a long and difficult process. If you were the mayor of New Orleans, how would you use federal government funds to reconstruct what used to be a large metropolitan area? Share and discuss answers. Next, segue into a mini-lecture about the rebuilding efforts; stress that there are various emphases on rebuilding New Orleans: environmental, historical, modern etc. Ask students to further consider this question: as we consider the rebuilding effort in New Orleans, should we look ahead or in the past for ideas? Encourage students to consider whether or not effort should be made to “maintain” New Orleans or completely change it. Specifically focus on Lower Ninth Ward. Afterwards, have students read small excerpts from two chosen articles on urban development. This can be done as a jigsaw activity. Distribute large sheets of white paper, a map of New Orleans proper, markers, and a handout with instructions for students to consider in planning their ideal community in the Lower Ninth Ward.

Assessment: After students draw a model of what the “new” Lower Ninth Ward of New Orleans should look like, instruct them to write an informal letter to the mayor describing their proposal and an explanation of their design. Have each group present their design.

### Lesson 5: Can New York City Learn from New Orleans?

Anticipatory Set: Ask students to share their experiences during superstorm Sandy. Next, share a video clip from NBC learn of the devastation in Staten Island, a borough of New York City.

Activity: Pass out article titled “Why New York City is the Worst Place for a Hurricane.” After students read it, have them evaluate whether or not New York City shares the same risk level as New Orleans.

Assessment: Have opposite teams of students collaboratively brainstorm whether or not residents of low-lying areas of New York should forcibly move to higher ground to prevent future flooding and devastation similar to Hurricane Katrina.

### Lesson 6: Extension Activity

Extension Activity # 1: A great tool on the web for students to use is blogging. This activity can take place in or out of the classroom. Essentially, the teacher posts a question, an image, or an article for students to examine and they put their responses into an electronic format accessible to all. This activity is particularly beneficial for students who do not voice their opinions frequently in class. Another benefit of blogging is that students can also comment on each others' work.

## Teacher and Student Resources

Atlas, James. "Is This the End?" *The New York Times*, November 24, 2012. Accessed January 7, 2013. [http://www.nytimes.com/2012/11/25/opinion/sunday/is-this-the-end.html?\\_r=1&](http://www.nytimes.com/2012/11/25/opinion/sunday/is-this-the-end.html?_r=1&). This editorial is best used for lesson five because it concerns New York City.

Barry, John. *Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America*. New York: Touchstone, 1998. A must read book for anyone thinking about teaching this unit because it discusses how the Great Mississippi flood of 1927 fundamentally changed the government's role in flood control.

Brinkley, Douglas. *The Great Deluge: Hurricane Katrina, New Orleans, and the Mississippi Gulf Coast*. New York: Harper Collins, 2006. This award winning book details the events leading up to Hurricane Katrina and features a compelling narrative prompting the reader to consider the negative role of the Army Corps of Engineers.

Burdeau, Cain. "New Orleans Levee Upkeep Presents Big Bill to Prepare for Hurricanes." *Associated Press*, November 27, 2012. Accessed January 7, 2013. [http://www.huffingtonpost.com/2012/11/27/new-orleans-levee-upkeep-\\_n\\_2200667.html](http://www.huffingtonpost.com/2012/11/27/new-orleans-levee-upkeep-_n_2200667.html). Use this current event in the classroom to engage students in discussion about the cost of rebuilding New Orleans. Is it financially worth it?

Campanella, Richard. *Bienville's Dilemma: A Historical Geography of New Orleans*. Lafayette, LA: Center for Louisiana Studies, 2005. Undeniably one the best books written about the geographical landscape of New Orleans. An excellent resource for both teachers and high school students, partly due to the excellent maps.

Diamond, Jared. *Collapse: How Societies Choose to Fail or Succeed*. New York: Penguin, 2005. A resource for teachers, Diamond examines how environmental pressures cause a civilization to collapse. His thesis can be a talking point about whether or not New Orleans is doomed to collapse due to its unique site and situation.

Diamond, Jared. *Guns, Germs, and Steel: The Fates of Human Societies*. New York: W.W. Norton and Company, 1999. A must read for anyone teaching a geography course because it provides a framework by which to examine human civilization.

*Don't Eat the Baby: Adventures at Post-Katrina Mardi Gras*. 2010.

[www.doneteatthebaby.com/Dont\\_Eat\\_The\\_Baby.html](http://www.doneteatthebaby.com/Dont_Eat_The_Baby.html). This film, which can be shown in a high school class, examines the post-Katrina terrain as New Orleans struggles with its identity amidst celebrating its first Mardi Gras.

Friedman, Thomas. *Hot, Flat, and Crowded*. New York: Picador, 2008. An appropriate teacher resource, Friedman discusses the role of our destabilizing climate change and our rising competition for energy.

Greenberg, Paula. "An Oyster in the Storm." *The New York Times*, October 29, 2012. Accessed November 15, 2012. [http://www.nytimes.com/2012/10/30/opinion/an-oyster-in-the-storm.html?\\_r=0](http://www.nytimes.com/2012/10/30/opinion/an-oyster-in-the-storm.html?_r=0). This article can be used when teaching lesson five about New York City.

Greenwald, Richard. "Will Climate Change Alter the Geography of New York's Public Housing?" *Atlantic Cities*, January 3, 2013. Accessed January 7, 2013.  
<http://www.theatlanticcities.com/housing/2013/01/will-climate-change-alter-geography-new-York-public-housing/4301/>. This article challenges students to study mapping patterns to determine why humans settle where they do.

Hamilton, Jon. "Protection From The Sea is Possible, But Expensive." *N.P.R.*  
<http://www.m.npr.org/news/front/164435330>. A fantastic podcast about the exorbitant costs associated with protecting humans from nature.

"Home Grown and Spirit-Raised." *Economist*, December 22, 2012. Accessed December 23, 2012.  
<http://www.economist.com/news/christmas/21568588-exuberant-new-orleans-ritual-commemorates-friendship-escaped-slaves-and-native>. Use this article with lesson two when teaching about Mardi Gras Indians.

Keoun, Bradley and Chris Dolmetsch. "Queens Community Ravaged by 'New York's Katrina.'" *Bloomberg*. October 30, 2012. Accessed November 15, 2012. <http://www.bloomberg.com/news/2012-10-30/queens-community-ravaged-by-new-york-s-katrina.html>. This article examines the aftermath of superstorm Sandy.

Kunzelman, Michael. "Hurricane Katrina Floodwall Case Heads to Trial in New Orleans." *Associated Press*, September 11, 2012. Accessed on January 7, 2013.  
[http://huffingtonpost.com/2012/09/11/hurricane-katrina-floodwall-case\\_n\\_1874239.html](http://huffingtonpost.com/2012/09/11/hurricane-katrina-floodwall-case_n_1874239.html). Use this article when discussing if New Orleans should be rebuilt.

Lister, Tim. "Experts Warn of Superstorm era." *CNN*, October 31 2012. Accessed November 15, 2012.  
<http://www.cnn.com/2012/10/31/us/sandy-climate-change/index.html>. An excellent article to use as an opening hook for the unit.

Nelson, Stephen A. "Why New Orleans is Vulnerable to Hurricanes." *Tulane University*, Fall 2012.  
Accessed January 7, 2013.  
[http://www.tulane.edu/~sanelson/New\\_Orleans\\_and\\_Hurricanes/New\\_Orleans\\_Vulnerability.htm](http://www.tulane.edu/~sanelson/New_Orleans_and_Hurricanes/New_Orleans_Vulnerability.htm). This PDF report from a prominent Tulane professor confronts misconceptions about the geographical layout of New Orleans.

New Orleans Official Tourism Web site, <http://www.neworleansonline.com>. This website can be used a resource for students interested in learning about the culture of New Orleans.

NOLA to New York <http://www.sandykatrina.tumblr.com/>. This touching website features messages from Hurricane Katrina survivors written to victims of superstorm Sandy.

*P.B.S.: New Orleans*. 2007. <http://pbs.org/wgbh/amex/neworleans/>. This DVD features two bonus clips of a jazz funeral and Mardi Gras Indians which can be shown when teaching lesson two.

Piazza, Tom. *Why New Orleans Matters*. New York: HarperCollins, 2005. An outstanding quick read for anyone trying to acquaint themselves with "why New Orleans matters."

Port of New Orleans, <http://www.portno.com/>. This is the official website of the Port of New Orleans.

Powell, Lawrence N. *The Accidental City: Improvising New Orleans*. Boston: President and Fellows of Harvard College, 2012. This recently published book is a great complement to this unit because it discusses the unique site and situation of New Orleans.

Rubenstein, James M. *The Cultural Landscape: An Introduction to Human Geography*. Upper Saddle River, New Jersey: Pearson Prentice Hall, 2011. This student textbook can be used in A.P. human geography.

Silverman, Rena. "Why New York City is the Worst Place for a Hurricane." *National Geographic*, November 1, 2012. Accessed November 15, 2012.

<http://www.new.nationalgeographic.com/news/2012/11/121101-new-york-city-hurricane-bight-science-environment-nation/>. Perfect article to use with lesson five about New York City.

Tollefson, Jeff. "Hurricane Sweeps U.S. into Climate-Adaptation Debate." *Nature*, November 6, 2012. Accessed January 7, 2013. <http://www.nature.com/news/hurricane-sweeps-us-into-climate-adaptation-debate-1.11753>. This article examines the role of global warming in the last decade.

*Treme*. 2010. <http://www.hbo.com/treme/index.html>. This HBO series highlights the uniqueness of New Orleans culture and features the lives of individuals in a post-Katrina landscape.

U.S. Army Corps of Engineers. <http://www.mvn.usace.army.mil/>. This comprehensive website about the U.S. Army Corps of Engineers is helpful for both students and teachers alike to better understand its role in New Orleans flood protection.

*When the Levees Broke: A Requiem in Four Acts*. 2006. <http://www.hbo.com/documentaries/when-the-levees-broke-a-requiem-in-four-acts/index.html>. Although it's not recommended to show this documentary in its entirety due to its graphic nature, selected clips should be shown to students to rightfully display the devastating aftermath of Hurricane Katrina.

## Appendices

A.P. human geography is a college level course offered nationwide that doesn't necessarily adhere to any state standard because standards vary greatly nationwide. Each A.P. teacher is held responsible for devising a rigorous curriculum (semester or yearlong) that ultimately prepares students for a comprehensive College Board exam issued annually each May. Since this geography unit can be taught in a regular high school course, I will identify the most relevant Delaware state standards. This unit's content targets all four geography standards for high school students.

Geography standard one requires students to develop a personal geographic framework, or "mental map," and understand the use of maps and other geographics. All lessons in this unit encourage students to develop their mental map of the following regions: the South, the Mid-Atlantic, and the Northeast by analyzing the impact of natural disasters in New Orleans, New York City, and the New Jersey Shore. In particular, lessons one, two, and five target this first standard. This standard also encourages students to apply the analysis of mapped patterns to the solutions of problems. By requiring students to examine the most at risk hurricane prone areas and highly populated human settlements, students are able to evaluate whether or not New Orleans should be rebuilt. Undoubtedly, the most applicable geography standard is number two because it requires students to develop knowledge of the ways humans modify and respond to the natural environment. Students learn that the human response to the characteristics of a physical environment impacts both human culture and the physical environment. Next, geography standard three concerns both the human culture and the unique nature of places. Lesson one and two both discuss the unique cultural attributes of New Orleans such as Mardi Gras Indians, Jazz funerals, and Mardi Gras. Lastly, geography standard four encourages students to develop an understanding of the character and use

of regions and the connections between and among them. More specifically, students apply knowledge of the types of regions, in this case function and perceptual regions, and methods of drawing boundaries to interpret the Earth's changing complexity.

## Notes

<sup>1</sup> Rena Silverman, "Why New York City is the Worst Place for a Hurricane." *National Geographic*, Nov. 1, 2012 (<http://www.nationalgeographic.com/news/2012/11/121101-new-york-city-hurricane-eight-science-environment-nation/>).

<sup>1</sup> Tim Lister, "Experts Warn of Superstorm era." *CNN*, Oct. 31 2012 (<http://www.cnn.com/2012/10/31/us/sandy-climate-change/index.html>).

<sup>1</sup> Paula Greenberg, "An Oyster in the Storm." *The New York Times*, Oct. 29, 2012 ([http://www.nytimes.com/2012/10/30/opinion/an-oyster-in-the-storm.html?\\_r=0](http://www.nytimes.com/2012/10/30/opinion/an-oyster-in-the-storm.html?_r=0)).

<sup>1</sup> Tom Piazza. *Why New Orleans Matters* (New York: HarperCollins, 2005), 1.

<sup>1</sup> James M. Rubenstein. *The Cultural Landscape* (Upper Saddle River: Pearson Prentice Hall, 2011), 97.

<sup>1</sup> New Orleans Official Tourism Web Site, (<http://www.neworleansonline.com/>).

<sup>1</sup> Port of New Orleans, (<http://www.portno.com/>).

<sup>1</sup> <http://www.neworleansonline.com>.

<sup>1</sup> Rubenstein, 10.

<sup>1</sup> Richard Campanella. *Bienville's Dilemma: A Historical Geography of New Orleans* (Lafayette: Center for Louisiana Studies, 2005), 17.

<sup>1</sup> Campanella, 113.

<sup>1</sup> Douglas Brinkley. *The Great Deluge: Hurricane Katrina, New Orleans, and the Mississippi Gulf Coast* (New York: Harper Collins, 2006), 6.

<sup>1</sup> Brinkley, 8.

<sup>1</sup> Campanella, 311.

<sup>1</sup> Campanella, 78.

<sup>1</sup> Campanella, 310.

<sup>1</sup> Campanella, 207.

<sup>1</sup> Campanella, 327.

<sup>1</sup> Campanella, 324.

<sup>1</sup> Campanella, 323.

**Curriculum Unit****Title**

Should New Orleans be Rebuilt?

**Author**

Melissa L. Blair

**KEY LEARNING, ENDURING UNDERSTANDING, ETC.**

1. Places are unique associations of natural environments and human cultural modifications. Ex: New Orleans.
2. Concepts of site and situation can explain the uniqueness of places. As site or situation change, so also does the character of a place.
3. Understand the Earth's physical environment as a set of interconnected systems (ecosystems) and the ways humans have perceived, reacted to, and changed environments at local to global scales.
4. The human response to the characteristics of physical environment comes with consequences for both the human culture and the physical environment.
5. The way mapped patterns are analyzed and used help solve societal problems.
6. Propose a realistic and creative design for specifically rebuilding New Orleans.
7. Evaluate to what extent hurricane prone urban areas such as New Orleans and New York City should be rebuilt.

1. What is culture? Why is it important to understand culture?
2. Why are some places more culturally diverse or similar than others?
3. To what extent can people predict the consequences from human alterations to the physical environment?
4. Why might focusing on how people perceive the risks and resources of the natural environment help to explain human behavior in different parts of the world?
5. How might regional analysis help to solve societal problems?
6. What are some of the key issues that planners should take into account when re-designing a neighborhood or city?
7. To what extent should New Orleans be rebuilt? New York City?

**CONCEPT A**

Culture

**CONCEPT B**

Human Settlement

**CONCEPT C**

Human-Environment Interaction

**ESSENTIAL QUESTIONS A****ESSENTIAL QUESTIONS B****ESSENTIAL QUESTIONS C**

1. What is culture? Why is it important to understand culture?
2. Why are some places more culturally diverse or similar than others?

1. Why might focusing on how people perceive the risks and resources of the natural environment help to explain human behavior in different parts of the world?

1. To what extent can people predict the consequences from human alterations to the physical environment?
2. How might regional analysis help to solve societal problems?
3. What are some of the key issues that planners take into account when re-designing a neighborhood or city?
4. To what extent should New Orleans be rebuilt? New York City?

**VOCABULARY A**

- \*Material and Non-Material Culture
- \*Cultural Landscape
- \*Place
- \*Region

**VOCABULARY B**

- \*Site
- \*Situation
- \*Climate
- \*Topography
- \*Soil
- \*Latitude
- \*Elevation
- \*Mississippi River
- \*New Orleans
- \*Vegetation

**VOCABULARY C**

- \*Hurricane Katrina
- \*Levees
- \*Army Corps of Engineers
- \*Rebuild
- Urban Planning

## ADDITIONAL INFORMATION/MATERIAL/TEXT/FILM/RESOURCES

Atlas, James. "Is This the End?" *The New York Times*, November 24, 2012. Accessed January 7, 2013. [http://www.nytimes.com/2012/11/25/opinion/sunday/is-this-the-end.html?\\_r=1&](http://www.nytimes.com/2012/11/25/opinion/sunday/is-this-the-end.html?_r=1&).

Barry, John. *Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America*. New York: Touchstone, 1998.

Brinkley, Douglas. *The Great Deluge: Hurricane Katrina, New Orleans, and the Mississippi Gulf Coast*. New York: Harper Collins, 2006.

Burdeau, Cain. "New Orleans Levee Upkeep Presents Big Bill to Prepare for Hurricanes." *Associated Press*, November 27, 2012. Accessed January 7, 2013. [http://www.huffingtonpost.com/2012/11/27/new-orleans-levee-upkeep\\_n\\_2200667.html](http://www.huffingtonpost.com/2012/11/27/new-orleans-levee-upkeep_n_2200667.html).

Campanella, Richard. *Bienville's Dilemma: A Historical Geography of New Orleans*. Lafayette, LA: Center for Louisiana Studies, 2005.

*Don't Eat the Baby: Adventures at Post-Katrina Mardi Gras*. 2010. [www.doneteatthebaby.com/Dont\\_Eat\\_The\\_Baby.html](http://www.doneteatthebaby.com/Dont_Eat_The_Baby.html).

Friedman, Thomas. *Hot, Flat, and Crowded*. New York: Picador, 2008.

Greenberg, Paula. "An Oyster in the Storm." *The New York Times*, October 29, 2012. Accessed November 15, 2012. [http://www.nytimes.com/2012/10/30/opinion/an-oyster-in-the-storm.html?\\_r=0](http://www.nytimes.com/2012/10/30/opinion/an-oyster-in-the-storm.html?_r=0).

Greenwald, Richard. "Will Climate Change Alter the Geography of New York's Public Housing?" *Atlantic Cities*, January 3, 2013. Accessed January 7, 2013. <http://www.theatlanticcities.com/housing/2013/01/will-climate-change-alter-geography-new-york-public-housing/4301/>.

Hamilton, Jon. "Protection From The Sea is Possible, But Expensive." *N.P.R.* <http://www.npr.org/news/front/164435330>.

"Home Grown and Spirit-Raised." *Economist*, December 22, 2012. Accessed December 23, 2012. <http://www.economist.com/news/christmas/21568588-exuberant-new-orleans-ritual-commemorates-friendship-escaped-slaves-and-native>.

Keoun, Bradley and Chris Dolmetsch. "Queens Community Ravaged by 'New York's Katrina.'" *Bloomberg*. October 30, 2012. Accessed November 15, 2012. <http://www.bloomberg.com/news/2012-10-30/queens-community-ravaged-by-new-york-s-katrina.html>.

Lister, Tim. "Experts Warn of Superstorm era." *CNN*, October 31 2012. Accessed November 15, 2012. <http://www.cnn.com/2012/10/31/us/sandy-climate-change/index.html>. An excellent article to use as an opening hook for the unit.

Nelson, Stephen A. "Why New Orleans is Vulnerable to Hurricanes." *Tulane University*, Fall 2012. Accessed January 7, 2013. [http://www.tulane.edu/~sanelson/New\\_Orleans\\_and\\_Hurricanes/New\\_Orleans\\_Vulnerability.htm](http://www.tulane.edu/~sanelson/New_Orleans_and_Hurricanes/New_Orleans_Vulnerability.htm).

New Orleans Official Tourism Web site, <http://www.neworleansonline.com>. This website can be used a resource for students interested in learning about the culture of New Orleans.

P.B.S.: *New Orleans*. 2007. <http://pbs.org/wgbh/amex/neworleans/>. This DVD features two bonus clips of a jazz funeral and Mardi Gras Indians which can be shown when teaching lesson two.

Piazza, Tom. *Why New Orleans Matters*. New York: HarperCollins, 2005. An outstanding quick read for anyone trying to acquaint themselves with "why New Orleans matters."

Port of New Orleans, <http://www.portno.com/>. This is the official website of the Port of New Orleans.

Powell, Lawrence N. *The Accidental City: Improvising New Orleans*. Boston: President and Fellows of Harvard College, 2012.

Silverman, Rena. "Why New York City is the Worst Place for a Hurricane." *National Geographic*, November 1, 2012. Accessed November 15, 2012. <http://www.nationalgeographic.com/news/2012/11/121101-new-york-city-hurricane-bight-science-environment-nation/>.