B. Our team decided to analyze hurricane Katrina as well as the Deepwater Horizon oil spill.

Many steps were taken towards mitigation to reduce the effects of natural disasters such as hurricane Katrina. Many buildings were built to specific standards to resist heavy winds and flooding. For example, the Hancook County Senior Center in Mississippi had storm shutters installed in all of its windows and doors after an assessment deemed the glass would shatter in heavy winds. Because of this installation, the Center was barely damaged in the storm, and was able to house over 200 victims, operating as a shelter for 88 days. Besides the structural improvements made, warning systems were also used. For example, in the University of Southern Mississippi, a tornado warning system was installed in order to warn students of the impending storm. This system allowed students to properly take shelter on campus. All of these mitigation efforts allowed victims of the disaster to recover more quickly, as well as allowed residents to help others who were less fortunate in the storm.

In an effort to prepare the City for a flood scenario, a group of engineers in New Orleans designed a system of levees along the Mississippi river. These levees were built by government request, and were built to the specifications given to the engineers. However, the specifications given were not designed to handle a storm of the magnitude of hurricane Katrina, and the levees could not hold the water, allowing the river to flood the city. The city of New Orleans did have a disaster response plan in place before the storm ravaged the city. However, this plan was only designed for a class three hurricane. The much stronger storm exceeded the expectations of the plan, and left the city unable to properly respond to the storm. Although the plans in place were meant to reduce reduce the effects of the storm, the unexpected strength of the storm surprised city officials, making it much more difficult to effectively respond to the disaster.

After the storm, thousands of people remained in New Orleans, without food, water, or shelter. Many efforts were made to aid these victims, including evacuating residents to the “Superdome” sports complex. However, the complex could not house all of the victims sufficiently. Eventually, on September 1, several thousand National Guardsmen arrived in the city to aid in the efforts, with over thirty thousand troops arriving by September 3. Another effort to relieve the effects of the storm came from Direct Relief USA, an organization created in 2004. After the storm, the organization delivered $47 million in medical aid to the areas affected by Katrina. The aid from Direct Relief allowed the governments of these areas to effectively aid the victims of the storm. The response to a natural disaster heavily influences the recovery of the community.
After the disaster, the storm-ravaged areas are slowly recovering. The U.S Census Bureau estimated the population of New Orleans in 2014 at 384,320. This number is still lower than the population of the city in 2000, 484,674. Another effort to help with recovery in the disaster areas is the $800 million committed by FEMA to aid in the rebuilding of schools and hospitals, as well as aid in renovations to help prevent future disasters.

Preparations for a massive oil spill were conducted by the U.S Government. The government conducted four major drills in 2002, 2004, 2007, and 2010 to prepare in the event of a massive oil spill. Looking at the action reports however showed many issues with the drills. The drills did help in response to the event however, they did have problems related to communication, coordination, and technology.

Many people have criticized the government for waiting too long to declare the spill as a response to the spill. They also didn’t use the pentagon planes soon enough to spray the dispersants, and they also lacked a ready supply of specialized booms to contain and burn the growing oil slick. Another issue in response was the issue that there was a lack of technology to contain the oil spill. The obama administration waited nine days to declare the bp accident which by that time barrels of oil were leaked into the the Gulf. As response they came up with three approaches for removing the oil from the water including offshore filtration, combustion, and collection.

Bp paid up to 14 billion dollars for response and cleanup activities. The result of the oil spill had severe impact on the ecosystem. More than 8,000 types of animals died in the first few months after the incident while thousands of other animals were harmed. On April 15th, 2015 Bp claimed that the cleanup along the coast was complete. Approximately 47,000 people and 7,000 vessels were involved with the clean up.

C.

After the storm, many residents of cities destroyed by storms found themselves without homes to live in. To help these victims, FEMA sent more than 45,000 trailers to house those whose homes were lost to the storm. The main problem with these trailers, however, was the levels of formaldehyde used in the construction of the trailers. Another problem with the trailer was the rate at which they needed to be built, causing some trailers to have issues with the structures coming apart. Many people who stayed in the trailers reported trouble breathing, as well as burning eyes and skin. Despite these issues, most inhabitants were extremely grateful for the help given to them, allowing them to live comfortably and safely after they lost their homes.

To clean up the oil spill many different technologies were used to clean up the Gulf. The containment dome which would suck up the oil. The relief wells are used to divert the oil away from the spill site. Chemical dispersants were used to break up the heavy oils. Oil skimmers
were used to separate the oil. Fire was used to burn the oil. Lastly booms and barriers were used are floating barriers intended to keep the oil from spreading too far.

D. Concept Map for Hurricane Katrina

- **Hurricane Katrina**
  - **Mitigation**
    - Many buildings were built to specific standards to resist heavy winds and flooding. Warning systems were also developed.
  - **Response**
    - Many of the displaced residents went to the Superdome for shelter. Although the Superdome is large, it could not house all of the people. Soon, on September 1st, several thousand National Guardsman arrived to help aid the people. By September 3rd, there were over 30,000 troops in the area.
  - **Preparedness**
    - A system of levees along the Mississippi River was designed to control high water volume. They were not designed, however, for a storm of Katrina’s magnitude. The city also had a disaster response plan, but it too was not designed for a storm of this magnitude.
  - **Recovery**
    - After the disaster, the storm-ravaged areas are slowly recovering. The U.S. Census Bureau estimated the population of New Orleans in 2014 at 384,320. This number is still lower than the population of the city in 2000, 484,674.
Preparations for an oil spill were conducted by the U.S. Government. The government conducted four major drills in 2002, 2004, 2007, and 2010 to prepare in the event of a massive oil spill. Looking at the action reports however showed many issues with the drills, communication, coordination, and technology.

Many people have criticized the government for waiting too long to officially recognize the spill. They also didn’t use planes soon enough to spray the dispersants, and they also lacked a ready supply of specialized booms to contain and burn the oil slick. Another issue was that there was a lack of technology to contain the oil spill. The Obama administration waited nine days to declare the bp accident which by that time millions of barrels of oil leaked into the Gulf.

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The result of the oil spill had severe impact on the ecosystem. More than 8,000 types of animals died in the first few months after the incident while thousands of other animals were harmed. On April 15th, 2015 Bp claimed that the cleanup along the coast was complete.
Works Cited


