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The Impact of Hurricane Katrina on the United States Tourism Industry

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Abstract. The goal of this paper is to present hurricane Katrina in all its stages, from the beginning to the end and to highlight the economic, environmental and social consequences that occurred in the hurricane aftermath with a focus on the tourism industry. This paper also briefly explains the basic mechanism of tropical cyclones and hurricanes and their occurrences through a detailed explanation of hurricane Katrina and its effects on the United States. Some attention is also given to the immense damage and aftermath which is the largest ever made by any hurricane.

Keywords: Katrina; hurricanes; United States; tourism.

1. Introduction

Katrina is the name of the hurricane which hit the southern coast of the United States in late August 2005. The hurricane originally appeared on the 24th of August, 2005, near the Bahamas with its first attack on mainland occurring near Miami (Florida) with a category 1 hurricane strength according to the Saffir - Simpson's scale for hurricanes (Table 1). This event brought about major flooding and 11 deaths. Katrina continued its journey through the Gulf of Mexico where it became even more powerful and on the 29th of August, the hurricane hit the states of Louisiana and Mississippi with the intensity of a category 4 hurricane with wind speeds of over 250 km/h. Consequently, great damage was made to coastal areas, and 80% of New Orleans was flooded when the barriers that have been protecting the town were destroyed the day after. The hurricane also brought about a lot of damage and victims in the states of Alabama, Tennessee,

Georgia and Kentucky. It is estimated that it was the most expensive natural disaster in the United States until then [1, 2].

Such an enormous natural disaster more often manifests itself as an ecological crisis with increasing proportions for which the government has no solution to offer. Therefore, a new ecological ethics is emerging – ecocentrism, which is the opposite to anthropocentrism which considers the ecosystem to be a primary basis of everything, in which man is equal with other forms of nature. The only thing which differentiates him is his responsibility for life in general, especially for the human society, but also for inanimate nature. The problems of the modern world, technical and technological development accelerated by economic growth, urbanization and industrialization, population growth, depletion of natural resources and their impact on the disturbance of the ecological balance, introduction to the opinions of scientists and international forums about environmental problems and the global character of ecological problems present regular issues that scientists and experts at local, regional and global levels have to face on a daily basis [3].

The goal of this paper is to present hurricane Katrina in all its stages, from the beginning to the end and to highlight the economic, environmental and social consequences that occurred in the hurricane aftermath with the main focus on the tourism industry.

This paper also briefly explains the basic mechanism of tropical cyclones and hurricanes and their occurrences through a detailed explanation of hurricane Katrina and its effects on the United States. Some attention is also given to the immense damage and aftermath which is the largest ever made by any hurricane.

2. Climatology of tropical cyclones

The term "tropical cyclone" in its broader sense includes a number of tropical disturbances. The classification is made according to the maximum attained strength of the wind:

- **Tropical disturbances**, when the maximum wind speed is less than 20 kt
- **Tropical depressions**, where the maximum wind speed is between 20 kt and 34 kt,
- **Tropical storms** when the maximum wind speed ranges from 35 kt to 64 kt and
- **Hurricanes**, when the recorded maximum wind speed is more than 64 kt.

For this occasion, the most powerful tropical disorders with cyclonic circulation will generally be referred to as hurricanes as they are usually called in the areas of North and Central America and West India. Besides this, they have other names. For example, in the area of East Asia they are called typhoons, while residents of the Philippines call them bajagos, and in the Indian Ocean near Mauritius they are called Mauritius-hurricanes [4].

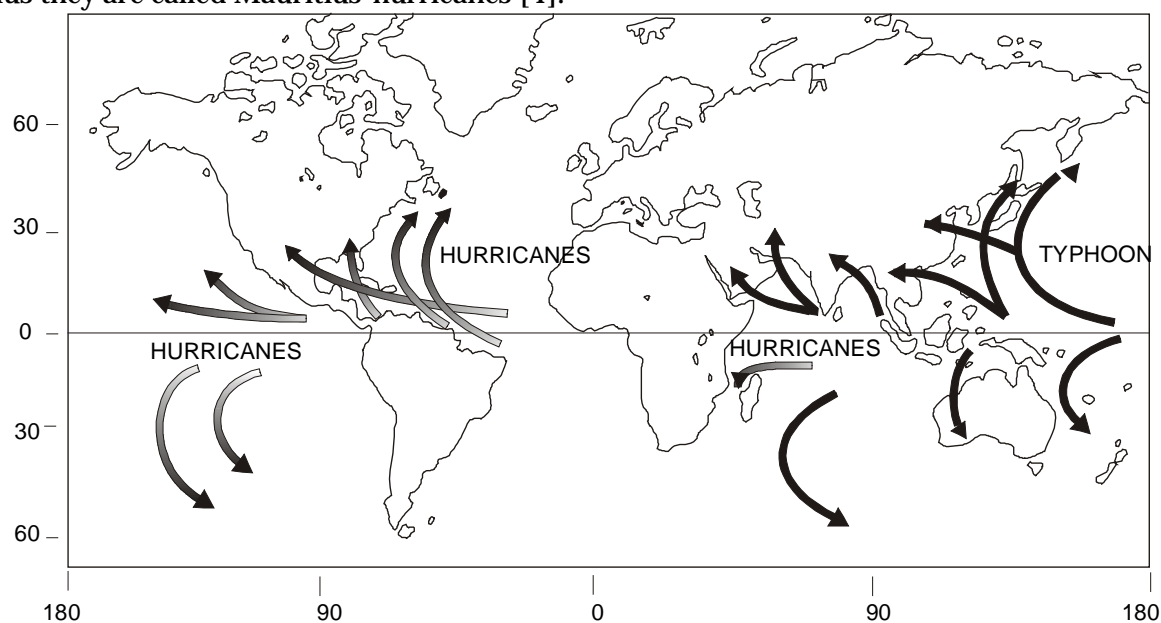


Figure 1. Hurricane development and behavior [4]

As shown in Figure 1, hurricanes develop within about 2000 km of the both side of the equator, over areas of very warm water (27°C or greater). Each begins its life cycle as a poorly organized tropical disturbance. If conditions are favorable, its moves through the successively stronger of a tropical depression and tropical storm.

There are wide variations in the intensity of tropical cyclones. They are far above the threshold for wind power in hurricanes. So, it is not strange that hurricanes very often reach wind speeds of over 100 kt. In Table 1 we gave the ranking of hurricane strength according to their wind speed and the potential damage they can cause [5].

Table 1
Sapphire-Simpson scale of the potential damage caused by hurricanes. Adapted from ref. [6].

Category	Pressure (hPa)	Wind (kt)	Storm surge (ft)	Damage
1	> 980	64 - 82	4 - 5	Damage mainly to trees; shrubbery and unanchored mobile homes.
2	965 – 979	83 - 95	6 - 8	Trees blown down; exposed mobile homes; damage to roofs of buildings.
3	945 – 964	96 - 113	9 - 12	Large trees blown down; mobile homes destroyed; damage to small buildings.
4	920 – 944	114 - 135	13 - 18	All signs blown down; extensive damage to roofs, windows and doors; complete destructions of mobile home; flooding inland as far 10 km; major damage to lower floors near shore.
5	< 920	> 135	> 18	Severe damage to windows and doors, extensive damage to roofs of homes and industrial buildings; major damage to lower floors of all structure less than 4.5 m above sea level within 500 m of shore.

Because of the devastating effects that tropical cyclones produce, due to the strong wind and huge waves, many tropical cyclones entered the history books. The first written report of tropical cyclones comes from Christopher Columbus. In this report, the famous sailor described a storm which occurred on the 12th of February in 1493, near the Azores when he was on his way back from America. Perhaps the greatest disaster caused by a tropical cyclone was the one which occurred on the 7th of October, 1737, at the mouth of the river Hull in the Bay of Bengal. A terrible cyclone had destroyed about 20,000 craft shops of all kinds, and a huge wave rose up to 43 ft. It was noted that at the time 300,000 people were missing. In the same place another disaster happened in 1864 when 50,000 people were killed. According to the available data, the largest flood wave created by a tropical cyclone occurred on the 30th of June in 1905, on the Mail island in the Marshall Archipelago, where the wave reached a height of 49 ft [3].

3. Hurricane Katrina

Hurricane Katrina is reputed to be the most expensive natural disaster that has ever happened to the United States. It is also the cause of the largest number of victims since September, 1928 when a hurricane hit Lake Okeechobee. Katrina was also one of the most powerful storms that hit the coast of the United States over the last hundred years. Winds from the mainland reached 127 kt (a strong category 3 hurricane according to the Sapphire - Simpson scale) and a minimum pressure in the center of the hurricane was the third lowest ever recorded (920 hPa).

Katrina caused colossal damage along the central coast of the Gulf of Mexico in the United States. Floods in New Orleans which were caused by the hurricane, were devastating and resulted in the relocation of 250,000 people. The hurricane has killed more than 1,800 people and caused a total damage of 125 billion dollars [1, 2].

3.1 Chronology of the hurricane

During the period from the 25th to 31st of August, 2005, hurricane Katrina brought about the series of destruction through South Florida, as well as in the southeastern parts of Louisiana, Mississippi and Alabama. The storm then suddenly began to move towards the states of Tennessee and Kentucky on the north, and then it began to move in the north-eastern direction where the main consequences of the hurricane were the abundant rainfalls.

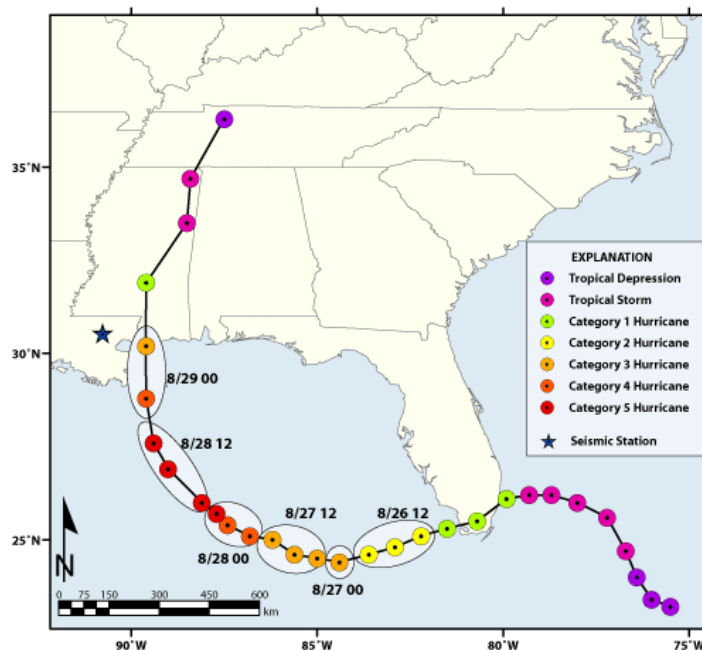


Figure 2. The pathway of Hurricane Katrina. Adapted from ref. [1].

Hurricane Katrina was formed on the 23rd of August as a tropical depression, 175 nm southeastern from Nassau on the Bahamas. Suddenly, the next day, the hurricane got more powerful and turned into a tropical storm which was moving through the central parts of the Bahamas.

Katrina slowly moved westward and gradually turned into a first category hurricane. At 6:30 PM, the hurricane reached land somewhere between Hallandale Beach and North Miami Beach with a wind speed of 80 kt, but at certain moments the wind also reached speeds of 90 kt. Despite the fact that the hurricane moved in the southwestern direction over the southern parts of Florida by night, the wind speed was only partially reduced and in a short period of time the hurricane strength returned to its previous state after passing over the warm waters of the Gulf of Mexico.

After coming into the Gulf of Mexico, Katrina began to move towards West. The high air pressure in mid-atmosphere above Texas slowly decreased and moved to the West, which enabled Katrina to turn gradually in the northwestern direction, and then towards northern places where the air pressure was being reduced in the following days. The conditions in the air, as well as on the sea surface were very convenient for further development and strengthening of the hurricane which made Katrina turn into a high category hurricane on the 26th of August in the afternoon hours.

During the next day, the hurricane strength was constantly increasing and on the 28th of August, on Sunday, Katrina became a category five hurricane with wind speeds of 160 nm per hour and with the air pressure of 908 hPa.

Three hours later, the wind reached its maximum speed – 175 mph and it stayed unchanged until late afternoon. During this period, Katrina was at maximum power not only with strong hurricane winds which hit the area 105 nm from the centre but also with the strong tropical winds

which reached 230 nm from the centre. These winds hit the southeastern coast of Louisiana as well.

By night, Katrina continued to move towards Louisiana and at 4 AM on Monday, 29th of August, the hurricane centre was 90 nm southeastern from New Orleans. Despite the fact that the strength of the wind was reduced to 150 kt, the strong gusts of wind could still be felt along the coast. A 55 foot wave was recorded near the mouth of the Mississippi River which still remains the greatest recorded height of such a wave.

At 6:10 PM, Katrina reached land near Plaquemines, south from Buras, located between Grand Isle and the mouth of the Mississippi, as a hurricane of the third category, despite the previous absorption of dry air. The wind speed on land was about 127 kt with the central pressure of 920 hPa, which was the third lowest pressure ever recorded in USA. At the same time, the winds with speed of 96 kt were blowing near the place Belle Chasse and 85 mi from New Orleans.

At 10 AM, for the second time, the eye of the hurricane reached the land between the northern coast of the Gulf near the border between Mississippi and Louisiana. The northern part of the hurricane was still very powerful with the speed of 121 kt. Even a few hours later, far away from the centre of the hurricane near the Dauphin Island in Alabama, the wind speed was 76 kt with sudden gusts of wind over 102 kt.

Katrina continued to lose its strength while it was moving towards northeast during the entire day. At that time Katrina still had the hurricane strength, even though it was 100 mi inside the land near the place Laurel in the state of Mississippi. Around 7 PM, 30 mi northwest from Meridian, the hurricane had lost its strength and became a tropical storm. Finally, on the 30th of August, Katrina became a tropical depression near Clarksville, Tennessee [1].

3.2 Effects of Hurricane Katrina in South Florida and Cuba

Hurricane Katrina reached the mainland for the first time on the 25th of August in the southern part of Florida where it still was a hurricane of the first category with wind speeds of 80 kt. Rainfall was abundant in some places and exceeded 14 in (352.8 mm) and created waves from three to five feet high. About a million people were left without power and the damage was estimated between one and two billion dollars as a direct result of huge flooding. It was reported that 14 victims lost their lives because of the hurricane.

Most of the Florida Keys island chain was invaded by tropical storm winds while the hurricane passed just north. The amount of rainfall was also high, about 10 inches. A Tornado which was formed from the rain belt of the hurricane swept through a hangar at the airport, where it caused damages of about five million dollars.

Although the hurricane was far away from Cuba, on the 29th of August it brought strong winds and eight inches of rainfall in the western parts of the island. As a result, telephone and electricity networks were damaged and about 8,000 people were evacuated. The coastal city Surgidero de Batabano was mostly under water [7, 8].

3.3 Effects of Hurricane Katrina in Louisiana

Hurricane Katrina hit a part of coastal Louisiana, on the 29th of August as a third category hurricane with wind speeds of 125 mi. However, since it decreased from the fourth to the third category, and the diameter of the wind was still high, it is possible that a fourth category hurricane hit southeastern parts of Louisiana for a short period of time. Although the wave of water on the east in the Mississippi was higher, a large wave hit Louisiana too. The height of the wave is not known precisely because of the lack of data, but one of the indicators is the tide level measured in Plaquemines which showed that the storm tide was 14 ft above normal.

Katrina also brought heavy rainfall, about 10 inches in the eastern part of the state. In some areas, 15 in of rainfall was measured. As a result of rainfall and waves, the water level in Lake Pontchartrain rose which caused major flooding along the northeastern coast of the lake during which several bridges were destroyed. Moreover, about 900,000 people were left without electric power as a direct result of the hurricane [7, 8].

3.4 Effects of Hurricane Katrina in New Orleans

While the hurricane was moving to the northeast, hurricane conditions rampaged the city for several hours. Although power failures prevented the measurement of wind speeds in many places

around the city, in some places where measurements were still possible, the hurricane wind speeds corresponded to those of the first and second category.

Water waves caused by the hurricane led to the destruction of the levee system that protected the city, which caused floods in about 80% of the city. Most of the major roads leading to and from the city were damaged as well as most of the bridges.

A huge number of windows on the north side of the Hyatt in New Orleans was destroyed as well as other high-rise buildings. Hyatt is a hotel that has suffered the most damage with beds literary flying out the windows from each of the floors. The entire exterior of the hotel, which was made of glass, was completely destroyed and there was only a skeleton left which held the windows.

The Municipal Stadium, which was the last refuge for those who have not been evacuated, also suffered extensive damage. The roof of the stadium was destroyed and the waterproof membrane was peeled off under the influence of strong winds. The main airport was closed before the storm but it was not flooded. It was re-opened on the 30th of August, when humanitarian and rescue actions started. The airport began to operate normally at the beginning of October.

The destruction of levees caused a large number of victims, and about 700 bodies have been discovered by the end of October. Some survivors have reported bodies in the streets and floating bodies in still flooded areas especially in the eastern part of the city. Because of rapid disintegration of the majority of bodies under the influence of rain and sun for several days, the identification of them was much more difficult. There were also victims at the city stadium, but only six cases were confirmed, four deaths from natural causes, one of which was a result of an overdose and one suicide [9, 10].

3.5 Effects of Hurricane Katrina in Mississippi

The coastal part of Mississippi suffered massive damage caused by the hurricane which happened on the 29th of August, when 238 people lost their lives and 67 people went missing. The property damage was estimated to be billions of dollars because many bridges, ships, boats, piers cars and houses were destroyed and "carried over" inland.

After reaching the Louisiana mainland, Katrina soon approached the limits of a category three hurricane near the places of Waveland and the Bay of St. Louis with wind speeds of 120 kt. Katrina's powerful right-front quadrant passed over the west and central Mississippi coast causing a powerful water wave with a height of 27 ft, which was going 6 miles inland in many areas and 12 miles inland along rivers and bays. Katrina also brought strong winds that destroyed large numbers of trees and thus caused tremendous damage throughout the state. Unofficially, the strongest gust of wind was 135 kt near the town of Poplarville.

The storm also brought heavy rainfall, from eight to ten inches in southwestern Mississippi and about four inches in other parts of the country. Katrina also caused 11 tornadoes on the 29th of August which damaged the trees and the power grid.

Being hit by wind, rain and waves of water, some coastal villages were completely razed. It was estimated that about 90% of the buildings in the area half a mile distant from the shore were completely destroyed. One apartment complex with approximately 30 people who stayed inside for protection was completely destroyed. More than half of the total of 13 floating casinos that were located on the water in order to avoid the gambling laws that apply to the land were thrown a few hundred yards on the ground. A large number of streets and bridges have been taken away by water and about 900,000 people were left without electricity [1, 2].

3.6 Effects of Hurricane Katrina in other states

Although the hurricane mainly hit the parts western from Alabama, this state has also had consequences caused by the hurricane. Around the Bay of Mobile, water waves were up from 12 to 16 ft while the wind was blowing with speeds of 67 kt. Water waves caused massive flooding along the Gulf of Mobile. Four tornadoes were also reported. Ships, oil platforms and piers were washed onshore along the Gulf.

Along the northwestern part of Florida, the water wave was about five feet high. In the town of Pensacola, wind was blowing at the speed of 56 kt on the 29th of August. Wind threw trees and caused damage to some buildings. In some places there had been minor floods. Around 77,000 people were left without electricity.

North and Central Georgia were affected by heavy rain (about 3 in) and strong winds as the hurricane moved towards the interior. At least 18 tornadoes were formed on the 29th of August, which is a record number for a single day. One tornado caused three injuries and one death as well as damage to several houses. It has also destroyed several chicken barns and killed about 140,000 chickens. Several other tornadoes have caused significant damage to buildings and agricultural facilities.

The power of the hurricane decreased after coming onshore, but from time to time strong winds could be felt on the north, near the place Forth Campbell in Kentucky, on the 30th of August. The wind also destroyed a lot of trees in New York, and brought a lot of rainfall to the wide area of the eastern United States. The amount of rainfall of 2 inches and more was present in 20 states of USA. As a result of Katrina, a lot of tornadoes were formed on the 30th and 31st of August, which was a cause of minor damage in some of the regions. As a direct consequence of Katrina, 62 tornadoes in 8 states were formed.

The eastern part of the state of Arkansas did not get such a big amount of rainfall. Strong winds destroyed several trees and wiring, but the damage was minimal. The storm which happened a week earlier caused major floods in Kentucky and the rainfall caused by Katrina made the situation even worse. Due to these floods, a few areas were reported to be totally devastated and a state of emergency was announced. One person lost a life, and one part of a school was destroyed. Consequently, the people had to be evacuated in West Virginia and in Ohio. The rain in Ohio indirectly caused two deaths and a lot of areas stayed without electricity especially in Tennessee, in the parts near Memphis and Nashville. The state of Texas did not have any major damage directly caused by the hurricane, but this state was a shelter for about 220,000 people, mainly from Louisiana, which exhausted its resources.

The remains of the hurricane were absorbed by a new cyclone, east of Pennsylvania. This cyclone continued to move in the northern direction and arrived in Canada on the 31st of August. In one part of Ontario, about four inches of rainfall was measured and a few cases of damage caused by falling trees were recorded. Quebec and Ontario were under the floods which caused the isolation of a few villages in Quebec [1, 2].

3.7 Economic impacts of Hurricane Katrina

The economic impacts of the hurricane were enormous. The Bush administration spent about 105 billion dollars for restoration and revitalization of the region. Major damage to the economy was caused by restriction in the oil production, destruction of the infrastructure on the highway along the shore of the Gulf of Mexico, as well as the fact that the export of grain products was thwarted. Katrina immensely damaged about 30 oil platforms and caused the closure of nine oil refineries. The total oil production in the Gulf of Mexico, six months after Katrina, was about 24% of normal production, and the production of gas was also decreased to 18% of normal production. Due to an enormous fear that oil production will decline for one third in comparison to normal, the price of oil suddenly increased but not evenly in all regions. There was a lot of complaints in Louisiana and other areas due to the sudden increase of prices, not only the prices of fuel but also the prices of other necessities such as bottled water. In some areas the price of fuel was 6 dollars for a gallon, which was much higher than normal. Before the hurricane, the price for a gallon was about 2.5 dollars. The international fuel price also increased. In the United Kingdom, for the first time in the history, the price of oil reached one pound for liter, which was three times more than before the hurricane. On the 7th of September, the oil production in the Gulf of Mexico reached 42% of normal production. Out of 10 refineries that Katrina closed down, 4 were supposed to start their normal production in a week time, but also 4 of them were not ready to start their production for several following months.

The timber industry in Mississippi was also hit due to the destruction of 3,293 mi² of forest areas. The total damage to this industry, caused by Katrina was estimated to be around 5 billion dollars. One hundred thousand people lost their jobs, which meant that the tax revenue would also decrease. Before the hurricane, there were around one million non-agricultural jobs in the region, of which around 600,000 were in New Orleans. The total economic loss in Louisiana and Mississippi is estimated to be around 150 billion dollars.

The hurricane also closed down a wide array of casinos along the shore of The Mississippi. The Hard Rock hotel and casino were expected to be opened on the 1st of September, but due to the

hurricane, they opened on the 30th of July in 2007. The Beau Rivage hotel and casino was heavily damaged by floods which came up to the third floor, but it seemed less damaged than the other objects on the shore. The Grand Casino in Biloxi was washed ashore, as well as many others. The President casino was also washed ashore and it finished on the top of the Holiday Inn Hotel, 1 mi from its original location. Before the hurricane, around 14,000 people were employed in some of the numerous casinos along the shore. Casino Hara in New Orleans closed just before the hurricane, but it was opened again on the 17th of February in 2006, just in time for the Mardi Gras Carnival.

Mississippi was losing about 500,000 dollars from taxes every day, while the area around Biloxi, known for casinos, was closed. For instance, in 2004, Mississippi had an income of around 2.7 billion dollars from numerous casinos, and it was in third place, after Nevada (10.3 billion) and New Jersey (4,8 billion) [1, 2, 11].

The hurricane had destructive influence on the tourism of this area too. As a result of its influence all tourist activities were thwarted. The tourism industry in New Orleans, which is worth around 5 billion dollars, needed 5 years to recover from the hurricane and reach the same level of tourist visits it had before the hurricane. Before the hurricane, in 2004, New Orleans was visited by an astonishing number of 10.1 million tourists. The number of visitors in 2006, after the hurricane, was 3.7 million, and in 2009 around 7.9 million visitors [8].

Katrina was the factor which influenced around million of people to move from the Gulf of Mexico to other parts of the USA, which was the highest number in the history of this country. In Houston, the number of people increased for 35,000, in Mobile for 24,000, in Baton Rouge for 15,000 and in Hammond for 10,000 which was double then it was before. Chicago was the city in which the highest number of people (6,000) came in comparison with other cities in the north. In January 2006, around 200,000 of people lived in New Orleans, which was less than a half of the number of people which lived there before the hurricane. In July, when the number of people was estimated again, Louisiana had around 220,000 people less than before. Some of the insurance companies started refusing to insure the houses, while the others raised the prices for insurance in the region, due to the high costs caused by hurricanes Katrina and Rita [1, 2].

3.8 Ecological impacts of Hurricane Katrina

Katrina has also had a significant impact on the natural environment. Big water waves caused significant erosion of many beaches and in some places they completely destroyed coastal areas. Water waves caused by Katrina completely destroyed Chandelier islands which were also damaged in the previous year during a hurricane. The U.S. Geological Survey has estimated that about 560 km² of land has been converted into the sea due to the impact of hurricanes. The lost land was used for reproduction of various marine mammals, pelicans, turtles and certain species of migratory birds. Overall, about 20% of the local marshes were permanently flooded as a result of the hurricane. Katrina has also caused the closure of 16 shelters for wild animals. Many of them have lost habitats in the storm. The hurricane had a negative impact on the habitat of sea turtles, cranes, woodpeckers and many other species.

The hurricane also caused oil spills from 44 facilities throughout Southeast Louisiana, which led to a spill of 26 million gallons of oil. Most of the spilled oil is retained on-site, but in some places the oil has entered the ecosystem as was the case in the town of Mero which was flooded with a mixture of oil and water. Officially, there weren't any oil spills reported on land but on the sea surface in some parts of the bay it was clearly visible.

In the action of cleaning New Orleans, all the water that flooded the city was pumped into Lake Pontchartrain which lasted 43 days. This water contained a mixture of sewage waste, bacteria, heavy metals, pesticides, toxic chemicals and oil which led to the fear that wildlife in the lake could be seriously affected [1, 2].

3.9 Looting and violence

Shortly after the hurricane, on the 30th of August in 2005, some residents of New Orleans who stayed in the city began to loot local stores. Many of them were in search for food and water, which have not been available in any other way, but a lot of them were also taking other things that were not necessary for survival. Reported cases of car theft, murders, and rapes were all over the headlines. Some sources later determined that most of these reports were not accurate because of

the chaos. Thousands of members of the National Guard were mobilized (the total number increased from 7,800 as it was the day that the hurricane swept the land to 46,800 as it was on the 10th of September) and sent to Louisiana along with local police from other states which was temporarily deployed here. Many incidents of gunfire between police and residents of New Orleans happened but soon order was established. Many arrests were carried out throughout the area and a temporary jail was built at the railway station.

In Texas, where there were more than 300,000 refugees, the local authorities have checked the files of 20,000 people and found that around 45% of the refugees have some kind of criminal offenses in their files, and that 22% have some kind of offenses involving violence. The number of homicides in Houston from September 2005 to the end of February 2006 was 23% higher compared to the same period the previous year. In 29 out of the 170 murders, someone from Louisiana was involved either as a victim or a suspect [12].

4. Conclusion

As it can be seen from this paper, hurricanes are relatively common in the United States and generally occur in the Gulf of Mexico. Despite all the technology and the advancement of the human society, hurricanes cannot easily be prevented, but it is possible to significantly reduce the damage and loss of life by predicting hurricanes and evacuating residential areas. In the last hundred years, in the U.S., there were only two hurricanes which have made more damage and took more lives than Hurricane Katrina. About 1,600 lives were lost and a record damage of over 100 billion dollars was caused. Moreover, thousands of people stayed homeless and permanently relocated. The area affected by the hurricane is still not fully recovered, both economically and in every other way.

The oil industry needed a few years to get back on its feet. The environment in this area was significantly disturbed and threatened. Tourism which is an important part of the economy of the area has experienced a complete failure and is still recovering. The image of this area as a tourist destination was significantly disrupted which caused a huge decrease in the number of tourists, but their number is now gradually increasing year after year. At least one positive thing for the tourism of the area came as a result of the hurricane in the form of organized sightseeing tours in the areas devastated by the hurricane. These tours brought new tourists and contributed to the recovery and re-popularization of the destination. Not all are supporters of this approach but it is certain that the Americans know how to seize even the most severe disaster and turn it into an attraction which is extremely positive and useful.

Certainly, hurricanes are a constant threat to the tourism development of the region and the whole economy in general but people get used to them and adapt their lifestyles. They are always aware of the risks and the frequent and considerable material damage and in accordance with these facts they have adapted their life to such circumstances which is not always easy and simple.

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Последствия урагана Катрина в промышленности Соединенных Штатов туризма

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Аннотација. Целью данной работы является представление урагана Катрина на всех ее этапах, от начала до конца и, чтобы выделить экономические, экологические и социальные последствия, которые произошли в связи с последствиями урагана с акцентом на индустрии туризма. Эта статья также кратко объясняет основной механизм тропических циклонов и ураганов и их появления путем детального объяснения урагана Катрина и ее влияние на Соединенные Штаты. Некоторое внимание уделяется также огромный ущерб и последствия которая является крупнейшей когда-либо сделанных любой ураган.

Ключевые слова: Катрина; ураганы; Соединенные Штаты; туризм.