

Global Warming Speeds up Changes in South Louisiana

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Global warming threatens to increase the rate of loss of Louisiana's coastal wetlands and negatively affect the related ecosystems and human population. The increase in sea temperature will increase water level and hurricane intensity thus speeding up the loss of the natural wetland storm buffer for the city of New Orleans. The increase in temperature will also cause a challenge to the stability of the south Louisiana's ecosystem and change human coastal living.

Louisiana's outer buffer to storm surges is its coastal wetlands and barrier islands. Louisiana's average temperature has been increasing since the 1960's. According to climate projections from the Canadian Climate Centre, the maximum summer temperature could rise by 3 to 7 degrees and maximum winter temperatures could increase by 3 degrees due to global warming. In the coastal regions, the rainfall is likely to decrease. The sea level is expected to rise between 21 and 44 inches above what they are now by the year 2100. Louisiana's rate of sea level rise is the highest in the United States (1).

WBZ-TV Chief Meteorologist Ken Barlow states that because the Gulf of Mexico is shallow the increase in temperature of 1-2 degrees adds a lot of fuel that will increase hurricane intensity. The Gulf coast wetland ecosystem is delicately balanced. This stability will be changed by Global Warming and can cause small sea life such as plankton or small fish to be reduced in number and variance. This change also will affect life in the higher levels of the food chain. (2) According to Jacoby Carter, "The marsh ecosystems include 93 species of plants, turtles, alligators, snakes, muskrats, egrets, herons, and ducks living in the freshwater system. The saltwater system is home to only 17 species of plants, blue crabs, speckled trout, redfish and shrimp. Finally, the brackish

and intermediate systems are home to many grasses and reeds, fish and shellfish such as menhaden and shrimp.”(3) The intrusion of saltwater into freshwater crawfish ponds could reduce crawfish yield and the increased heat could increase bacterial and viral contamination of shellfish, which can be passed through human consumption.

According to a report from the Louisiana Wetland Protection Panel, “If current trends continue, an ecosystem that supports the nation's oldest bilingual culture, 25 percent of the nation's fishing industry, and North America's largest fur-producing area, will be mostly lost in the next century. This process could be further accelerated if sea level rises one or more feet as a result of the projected global warming from the greenhouse effect” (4). The loss of the wetlands also reduces the natural habitat for tropical species and ecosystems such as the black mangrove areas and further endangering such species as the Mississippi sandhill crane. The Mississippi sandhill crane is in long term danger and needs an equal amount of grasslands and wetlands to survive. However many of the habitats upon which they depend are degrading or disappearing at alarming rates. (5)

Because of the increase in sea level as well as the erosion of the Louisiana delta wetlands, any hurricane that hits the coastal Louisiana region is likely to have greater damage because of a higher resulting storm surge. Because New Orleans was built on wetlands the construction of levees and the draining of the land within the city has resulted in substantial subsidence such that most of New Orleans is now below sea level. The erosion of the wetlands south of New Orleans removes the protective barrier to the city. A hurricane of level 3 or higher could result in a “bowl of water” in the city. (6) This has happened in hurricane Katrina and can re-occur.

Louisiana State Highway 82 runs beside the Gulf of Mexico and has had to be moved three times since the 1960's due to erosion. This two-lane highway was originally protected by 300 feet of

beach and dunes; however erosion stands to eliminate the sand ridge that the highway sits on, destroying the evacuation route for five communities in the region. This barrier also protects marshland that is habitat to fish and wildlife. If this barrier disappears, the habitat will be damaged (7).

Average temperature is projected to increase the most in the southern US. This will increase the number of heat related deaths and other heat related medical problems. Higher temperatures will lead to increased ozone levels in the air. The rice crop could be affected by the intrusion of saltwater to these areas. The increase of water temperature could reduce the amount of dissolved oxygen in the water, altering aquatic food webs (8).

As Earth Day 2007 passes, it is heartening to finally see widespread awareness to the problems of Global Warming. Now that we have defined the problem, we can start taking corrective action.

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