THE APPLICATIONS OF GIS IN GAUGING THE SUSCEPTIBILITY OF COASTAL AREAS IN THE SOUTHEAST STATES OF LOUISIANA AND MISSISSIPPI

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Abstract: This research assesses the vulnerability of coastal areas in the Southeastern states of Mississippi and Louisiana using climate risk information. Emphasis is on the issues, and evaluation of the trends. In terms of methods, the paper uses GIS and descriptive statistics to map the trends. In the last several years, climate change impact continues to be felt in the Southeast especially the coastal zones. It has been predicted by scientists that many people could be affected by the impact of climate change risks in the Southeast coastal zones mostly from storms, high and extreme temperatures and others. As one of the most sensitive and vulnerable systems, coastal zones’ areas of concern include sea level rise, land loss, frequency of maritime storms, flooding and responses to sea level rise. Addressing the challenges associated with the threats of climate change in coastal areas of Mississippi and Louisiana, requires periodic assessment of the risks using geographic information systems. Without access to sufficient climate risk information management tools to measure the precise vulnerability of coastal zones areas, the ability of emergency managers and cities to mitigate the dangers posed to infrastructure, human lives and the economy will be diminished. The preliminary results show a spatial diffusion and a growing risk in vulnerable coastal areas in the two states. Utilizing climate risk data and GIS techniques to analyze the dangers faced in coastal cities helps minimize their vulnerability. The paper suggests the need for constant assessment and mapping of the risks.

Keywords: GIS, climate change, South East, coastal zones, climate risks