AGRICULTURAL DAMAGE ANALYSIS FOR 100-YR FLOOD USING HAZUS-MH.

Sudhanshu Sekhar Panda[1] and Joel Martin[2]

AUTHORS: [1]Gainesville State College - Institute of Environmental Spatial Analysis, 3820 Mundy Mill Road Oakwood Georgia 30566; [2]SUniversity of North Georgia - Institute of Environmental Spatial Analysis, 3820 Mundy Mill Road , Oakwood, Georgia 30566
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Abstract. Due to Global Warming & Climate Change, in recent times, increased precipitation intensity and subsequent flooding is being experienced in most parts of United States. 100-yr flood events are common in recent years in Metro Atlanta. It is essential to understand the impact of such flood events and suggest remedial measures to local, state and regional officials for stimulating efforts to reduce risks from such multi-hazards. The objective of this study was to use FEMA developed multi-hazard modeling HAZUS-MH software and predict the damages on the agriculture of Fulton County, GA during a 100 year flood. This analysis was conducted using the newest (2010) census data to calculate damages and losses to buildings and other infrastructures in the county along with agricultural damage due to the simulated 100 year flood. Most of the data used in this analysis was from the embedded database of HAZUS-MH software, an add-on of ArcGIS 10. High resolution (10 m) DEM was downloaded from Georgia GIS Clearinghouse and was used in the flood analysis. It was found from the study that mostly corn and soybeans would be damaged in the county with an estimated cost of 8.7 million dollar ($5.6 million corn and $3.1 million soybeans). The spatial analysis also showed that most of agriculture damage is in the southwest and the northeast corners of the county. Most agricultural areas in the county are right next to Chattahoochee River and make them vulnerable for major flooding. Major pasture areas in the county were not affected as much by the flood. The result of the study would be provided to the County officials for hazard risk reduction through planning and management.