



Promoting Flood Hazard Resilience: The Economics of Elevation Retrofitting of Homes

Principal Investigator: Warren Kriesel, University of Georgia College of Agricultural and Environmental Sciences

ABSTRACT

The goals of the project are to obtain property-specific measurements of the elevation of homes' first floor above the base flood elevation in Savannah/Chatham and Camden Counties, to ascertain the benefits of home elevation retrofitting from a regression analysis of how elevation and other important property characteristics affect property sale prices and to incorporate the results into an outreach effort that involves 2 trips for public presentations and development of a web-based application that will allow any user to estimate the benefits and costs of retrofitting a home to be resilient to flooding hazards.

In order to achieve these goals, two real estate markets in Georgia's coastal counties will be analyzed via regression models of property price determination. Property parcel data from the county tax assessor will be combined with flooding hazard and other overlays to indicate how the market values different housing attributes especially the measurements of each home's elevation above the BFE. Information about a house's elevation will be obtained from the property's Elevation Certificate. Recently, Savannah/Chatham and Camden County have scanned these documents into separate image files. The PI with SAS/Internet software will develop a web-based decision-making tool. Users will see an HTML form on their screens; they will input some simple information about their property and home characteristics, then click to 'submit.' After the SAS script processes their information they will view a PDF report about the benefits and costs of retrofitting their homes. This may encourage them to take the next steps of getting a cost estimate from a contractor and a new flood insurance quote from their agent.

In the course of a public meeting in coastal Georgia, an official requested information for local residents about the economics of retrofitting homes to an elevation above the base flood level. More widespread elevation retrofitting of homes will determine the hazard resilience of coastal communities. If homeowners had better information about the associated costs and benefits then more owners may retrofit their homes. Publications from FEMA give approximate project construction costs, and the benefits are estimated as flood insurance premium savings. However, a retrofitting project alters a home's

characteristics, and this will have an effect on the home's value. The FEMA publications do not consider benefits in the form of improved property value. This study will address these additional benefits. A preliminary analysis of Camden County tax assessor data obtained during an earlier Sea Grant project has revealed that homebuyers prefer houses that are not constructed on a slab foundation, i.e. they prefer houses that are somehow elevated. Better data and analysis is needed before information from a real estate market study can become part of an outreach effort. Homeowners can consult this information before deciding to invest in elevation retrofitting.