**Title:** Do Coastal Copyright and DiEcosystems Mitigate Storm Surges and Tsunamis

**Statement of Problem:** Governments worldwide have recently esclaimerThe Statmbarked on me of South Carolany expensive restoration projects involving barrier islands, coastal marshes and mangrovina owns the cope forests following catastrophic disturbance A commonly-held perception among the general public, policy-makers, and some scientyright to the Coists is that coastal ecosystems provide significant measurable protection to human habitation during extreme storms ande of Laws of Sod tsunamis. Restoration activitieuth Carolina, 19s have be76, as containeden particularly intensive after the December 2004 herein. Any ustsunami in the Indian Ocean and the 2005 hurricane season in the Gulf of Mexico. Yet, the scientific ee of the text, svidence is equivocal. Field observations and some modeling studies cast doubt on these widely held beliefs. The scientific question can be cast in terms of theection headings, interactions between coastal ecosystems and extreme or catchlines o events. Firstly, how are coastal ecosystems impacted by extreme events? And secondly, do coastal ecof the 1976 Code systems mitigate the extreme event, that is, under what conis subject to thditions do they afford some form of protection, and if so, how much?

**Objectives:** First, thoroughlye terms of feder review the literature concerning the role of coastal ecosystems in mitigating damagal copyright ande to build a publicly accessible c other applicablomprehensive database of actual observations that can be used for analyses. This literature review will also provide insights into how these perceptions e laws and such came about and htext, section heow they have been propagated. Second, bring physical and biological scientists in a major workshop to address this topic. Many hydrodynamic models exist concerning tsunami propagation through mangroveadings, or catchs. Howevelines may not ber these models are badly miscalibrated in how they represent the forests. Similar situations exist for other types of coastal ecosystems. Third, disseminate the results and recommendations to the public-polic reproduced in wy makers and appropriate hole or in part government entities to ensurein any form or f the recommendations are included ior inclusion in n the planning process.

**Relevance and Impact:** The cost of restoriany material whing coastal ecosystems and communities is huge. Restch is offered fooration must be based on sound science and the general public and decision makers must understar sale or lease nd their options.

**Partnerships:** A number of scientists from all disciplines in USGS hawithout the exprve expertise pertinent to this project. Federal partneess written permrs include the National Park Service and Fish and Wildlife Service, both of which have coastal unitsission of the Ch along all airman of the South Carolina US coastlines. The US Army Corps of Engineers would be extremely interested in the results.