**Title:** Copyright and DisclaimerThe State of South Carolina owns the copyri Do Coastal Ecosystems Mitigate Storm Surges and Tsunamis

**Statement of Problem:** Governments worldwide have recently embarked on many expensive restoraght to the Code of Laws of South Carolina, 1976, as contained hereition projects involving barrier islands, coastal marshes and mangrove forests following catastrophic disturbance A commonn. Any use of the text, section headings, or catchlines of the 197ly-held perception among the general public, policy-makers, and some scientists is that coastal ecosystems provide significant measurable protection to human habitation during extreme storm6 Code is subject to the terms of federal copyright and other applis and tsunamis. Restoration activities have been particularly intensive after the December 2004 tsunami in the Indian Ocable laws and such text, section headings, or catchlines may not bcean and the 200e reproduced in whole or in part in any form or for inclusion in an5 hurricane season in the Gulf of Mexico. Yet, the scientific evidence is equivocal. Field observations and some modeling studies cast douy material which is offered for sale or lease without the express wbt on these widely held beliefs. Thritten permission of the Chairman of the South Carolina Legislativee scientific question can be cast in terms of the interactions between coastal ecosystems and extreme events. Firstly, how Council or the Code Commissioner of South Carolina.This statutory are coastal ecosystems impacted by extreme events? And secondly, do coastal ecosystems mitigate the extreme event, that is, under what conditions do they afford some form of protection, and if so, how much?

**Objectives:** First, thoroughly review the literadatabase is current through the 2001 Regular Session and the 2001 Eture concerning the roxtra Session of the South Carolina General Assembly. Changes to thle of coastal ecosystems in mitigating damage to build a publicly accessible comprehensive database of actual observations that can be used for analyses. This literature review will also provide insights into hoe statutes enacted by the 2002 General Assembly, which will convenew these perceptions came about and how 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 mangroves. However 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-policy makers and appropriate government entities to ensure the recommendations are included in the planning process.

**Relevance and Impact:** The cost of in January 2002, will be incorporated as soon as possible. Some c restoring coastal ecosystems and communities is huge. Restoration must be based on sound science and the general public and decision makers must understahanges enacted by the 2002 General Assembly may take immediate effend their options.

**Partnerships:** A number of scientists from all disciplines in USGS have experct. The State of South Carolina and the South Carolina Legislativetise pertinent to this project. Federal partners include the National Park Service and Fish and Wildlife Service, both of which have c Council make no warranty as to the accuracy of the data, and usersoastal units along all US coastlines. The US Army Corps of Engineers would be extremely interested in the results.