

ABSTRACT

Guidance for South Carolina on Near-Term Coastal Adaptation Priorities

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Coastal areas of the United States are predicted to be the most vulnerable to future impacts of climate change. State and local resource managers have immediate responsibilities for planning and implementing strategies to prepare for and adapt to those changes, since many of the development and land use decisions that managers make today will have implications for decades to come. At the same time, there are considerable uncertainties regarding the potential magnitude and timing of climate change impacts, and significant data needs for comprehensive adaptation planning. Because it may take several years to collect the necessary data and thoroughly model and assess various risks and scenarios associated with climate change, coastal managers need guidance on immediate priorities and opportunities to begin adapting to climate impacts and to lay the groundwork for more exhaustive adaptation planning in the coming years. Managers need guidance on: a) how to plan (i.e., which impacts and sectors should be considered in future adaptation planning); b) how economic, environmental, and social vulnerabilities interact with respect to chronic, gradual impacts of climate change; and c) unique impacts expected in the southeastern region due to similarities in geomorphology, culture, and economic drivers.

The proposed research uses case studies involving four oceanfront coastal counties of South Carolina to identify social and economic vulnerabilities to climate change, as well as the “resilience” of natural resources (estuaries and barrier island systems). Each investigator will use a combination of literature reviews, secondary data analysis, and supplemental research efforts to identify high priority vulnerabilities and cross-cutting issues. An ongoing Advisory Panel made up of federal, state, and local officials and stakeholders from the southeastern region will provide regular feedback on each study and on the final report and recommendations generated through the study. The findings will provide a foundation for coastal adaptation planning in the southeast, and will support ongoing efforts of the South Carolina Coastal Zone Management Program to review research and policy needs for improved management of coastal hazards.