

Southeast Climate Consortium Summary for 2010 RISA PI Meeting

Introduction

The SECC has two components: SECC RISA, which includes six universities in Alabama, Florida and Georgia; and SECC agricultural research and extension projects funded by other sources, which also include Clemson University and North Carolina State University. In addition to NOAA RISA funding, the SECC funding sources include the USDA Risk Management Agency, USDA National Institute for Food and Agriculture, NASA, DOE, and NOAA CPO.

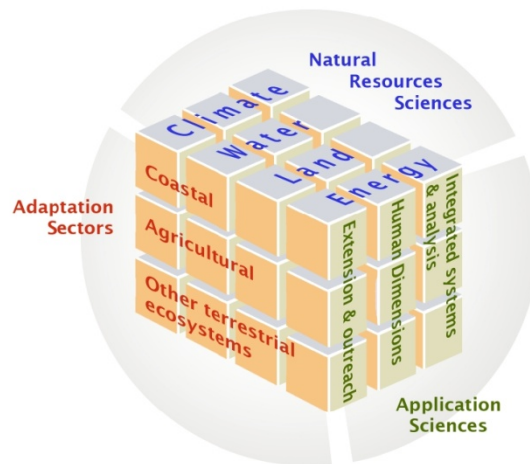
In total, about 70 faculty members, post-doctoral scientists, and graduate students participate in SECC activities from a broad range of disciplines, including climate sciences, hydrology, agricultural sciences, and social sciences. State Climatologists from AL, FL, GA, and NC participate in SECC activities, as do the land grant universities from all SECC participants. Each year, SECC participants meet twice, once in the spring for a program review and once in the fall for program planning. In addition, we hold regular video- and tele-conferences for various task forces and teams as well as the SECC Executive Committee. Our teams are longer-term efforts that include groups that focus on: 1) extension and outreach; 2) assessment and evaluation; and 3) water resource management. Task forces are *ad hoc* groups focused on specific problems, such as, improving spring and summer climate forecasts and development of local and regional decadal climate change scenarios.

Begun in 1998 as the Florida Consortium with three universities and a focus solely on agriculture, the SECC has grown steadily in both geographic coverage and sectors served. In the early 2000s, we started working on water resources with a focus on agricultural water users. We have expanded this effort to municipal water managers, larger scale water utilities, and other water resources stakeholders. As part of the recent RISA re-bid, we have expanded our scope further to address issues of coastal ecosystems and communities and terrestrial ecosystems. Further, we have also begun to address issues of forecasting and applying information on climate change at 5- to 30-year time scales in addition to seasonal climate information that was our sole focus until 2007.

Core SECC activities and structure

In order to meet the growing and changing demands for local climate change information, including information needs for sectors other than agriculture, to understand what information stakeholders need and their decision environments, and to develop accessible decision support tools, the SECC is reorganizing using a three-dimensional structure that is designed to promote collaboration among scientists and our partners. The three dimensions are: 1) ecosystem-based adaptation sectors; 2) natural resources sciences; and 3) application sciences. The SECC RISA activities will not support all components of the structure, but we present the structure to show how SECC RISA activities are part of our overall SECC program, much of which is leveraged with other funds.

Three Dimensions of the SECC



The diagram above shows the three dimensions of the new SECC structure and their components. Though shown separated to emphasize that each cell includes all three dimensions, in operation, the cells are linked and projects may address multiple cells as will be clear from the examples in the Methodology section.

The ecosystem-based adaptation sectors each tend to have different boundary organizations. In agriculture we have worked closely with Cooperative Extension and have begun working with other boundary organizations that provide targeted outreach to socially disadvantaged farmers, such as the Federation of Southern Cooperatives, which works primarily with black farmers, and the North South Institute, which works with Spanish-speaking, Asian, and black farmers. For coastal ecosystems, we will work closely with Sea Grant Extension, the Association of County Governments, Florida Oceans Coastal Council, Gulf of Mexico Alliance, and others depending on the findings of our assessments. For other terrestrial ecosystems, we will work in partnership with diverse boundary organizations, including Fish and Wildlife Service, Natural Resource Conservation Service, US Geological Service, and others to be identified in our scoping activities.

We do not plan to give all adaptation sectors equal emphasis in the SECC RISA. While agriculture will remain our largest program, we will also address the needs of other ecosystems. For coastal ecosystems, we plan to conduct stakeholder assessments and to strengthen CoastalClimate.org, our on-line prototype information system for coastal ecosystems. Work in the other terrestrial ecosystems will begin with scoping activities. Over the 5 years of the SECC RISA project, we anticipate increasing efforts for both coastal and other terrestrial ecosystems, and much of this increase will be through competitive funding.

Role of boundary organizations

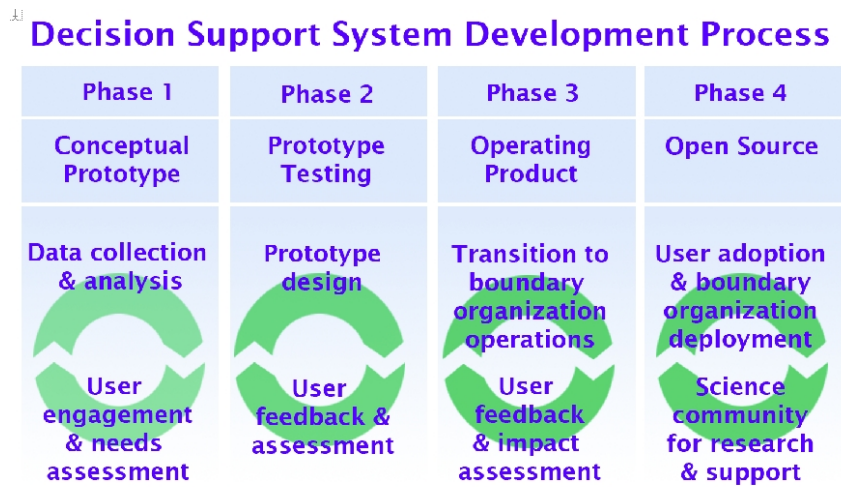
An important factor contributing to SECC success in agriculture has been a strong partnership with Cooperative Extension, which provides a boundary organization linking research to users for broad applications. The SECC also includes among its members the state climatologists for all SECC states. For the agricultural sector, we will shift much of our effort to providing information related to climate change and to developing methods to help sustain

AgroClimate [<http://AgroClimamte.org>], our on-line climate information and decision support system.

For coastal and other terrestrial ecosystems we have begun to develop new partnerships with appropriate boundary organizations. For the coastal ecosystems, we have begun to work closely with Sea Grant Extension programs. For other terrestrial ecosystems, we will begin with scoping activities that will include the identification of suitable boundary organizations with which we will develop partnerships.

Much of the climate information that the SECC produces is based on integrated models and analyses that address the needs expressed by stakeholders. Stakeholders need climate forecasts over multiple time scales and also climate change scenarios that are specific to their local and regional enterprises. Using results of stakeholder assessments, multidisciplinary groups will develop downscaled climate forecasts and climate change scenarios to local scales for use in vulnerability assessments and adaptive management of water resources, coastal ecosystems, and agricultural systems.

The SECC approach to development of a decision support system has four phases, with user or boundary organization engagement or participation throughout. While the science community may initiate and motivate the first two phases, leadership is transferred to an appropriate boundary organization in phase three. By the end of the fourth phase, the appropriate boundary organization leads the effort with support from the science community.



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Assessment services activities

Assessment framework

Conduct literature and web searches for assessment frameworks that have been successfully implemented in other regions and nations. We will evaluate the different

frameworks according to several criteria, including: i) how well they can support a national assessment; ii) their ability to balance breadth and depth, as is inherent in a nested matrix approach; iii) their ability to identify gaps in information and analysis; and iv) compatibility and degree to which they are complementary with frameworks being used by other RISAs. This task will include be conducted in collaboration with the Carolinas RISA, SCIPP and other RISAs to ensure that our activities complement each other to the greatest extent possible.

Social network analysis

Use results from literature and web searches to identify key institutions, individuals, and communities. Authors and citations will be analyzed to provide insight into levels of collaboration among researchers and the quality of their research. Analysis of information and products disseminated to various stakeholders will provide insight into the sources of information for boundary organizations as well as how and how well information from the scientific community reaches decision makers that are concerned with climate change and sea level rise.

Decision maker surveys

In order to reach as broad a population as possible, we will conduct diverse surveys, most of which will be web-based. We will survey existing institutions and communities, largely building on results of key stakeholder interviews. Numerous workshops and conferences on climate change adaptation and mitigation already planned for the coming year in our region. Instead of conducting separate workshops, we will work with the organizers of those workshops to survey participants.

Key stakeholder interviews

Based on network analysis, previous research, and other contacts, we will interview leaders and other key individuals in public and private institutions that develop, disseminate, or use climate information, as well as those that assess vulnerability or conduct programs aimed at adaptation to and mitigation of climate change and sea level rise. Because it is not possible to interview all leaders and key individuals, we will select interviewees so as to include as broad a spectrum as possible, geographically, sectorally, and socioeconomically. While we will strive to include representatives from groups and communities that have been identified as particularly vulnerable to climate change, we will also study groups and communities that have been as particularly resilient. Moreover, we will collaborate with neighboring RISAs in order to tap into each other's relative strengths so that the process can be most efficient.

The primary objectives of these interviews will be: i) to identify priority issues and information needs for current and potential future climate sensitive decisions; ii) to ascertain how decision makers value climate information and their sources of climate information; iii) to investigate stakeholder perceptions of their vulnerability to climate change at different time scales, e.g. 5, 10, 20, 50 years; iv) to assess stakeholders' perceptions of the relative importance of climate information compared with other information that they consider; v) to identify policy issues of concern to stakeholders; and

vi) to identify the best methods for engaging stakeholders in the research and assessment process.

Other SECC assessment activities

In addition to the above assessment activities targeted for the Climate Change Assessment Services project, the SECC conducts several other assessment projects, including

1. Engagement of organic farmers in order to understand their information needs and opportunities for application of climate information
2. Analysis of agricultural stakeholder needs for climate change
3. Assessing the accessibility, relevance, utility of SECC tools and information from the point of view of end-users and decision-makers, that is, product feedback to those who develop new decision support tools
4. Evaluating SECC tools and activities in terms of their actual use and impacts in agriculture and water resources management and implications of such decisions at various scales
5. Eliciting lessons learned by SECC, facilitating monitoring and evaluation processes, and integration with other RISAs
6. Regional collaboration of state climatologists to survey client demands for and sources of climate change information.

Long range, planning decisions that the SECC will support

1. Climate database availability, including:
 - a. C-OP datasets
 - b. Daily datasets
2. Regional climate forecasting, including
 - a. Climate change scenarios
 - b. RCM applications at seasonal and decadal levels
3. Open *AgroClimate* decision support system, including:
 - a. Development of new tools and products
 - b. Provision of regular climate outlooks and sectoral outlooks
4. National Integrated Drought Information System, including:
 - a. ACF information support
 - b. SE Water Climate decision support system
 - c. Drought indicators for agriculture and municipal water users
 - d. Drought forecasting
 - e. Water utility working groups

Common local decisions of regional significance

1. Development and land use changes
2. Agricultural management decisions, especially those related to fertilization and irrigation
3. Water conservation and drought management decisions
4. Planning for sea level rise
5. Energy and water use efficiency programs

