

STRATEGIC PLAN

GULF COAST COOPERATIVE ECOSYSTEM STUDIES UNIT 2008-2010

Introduction

The Gulf Coast region of North America is politically controlled by the United States of America, Mexico and Cuba. Within the US, the region is composed of those states which border the Gulf of Mexico (from east to west: Florida, Alabama, Mississippi, Louisiana, and Texas). The influence of the coastal regions also extends into neighboring states which do not directly contact with the gulf, namely Arkansas and Georgia. Historically, the Gulf Coast was an area of early and extensive exploration, followed by a time of concentrated settlement. Establishment of ports at the mouths of major river systems, which allowed for movement of goods and services into the interior of the North American continent, was typically the settlement pattern. The importance of the major coastal ports (Galveston, TX; New Orleans, LA, Gulf Port, MS; Mobile, AL; and Pensacola and Tampa, FL) on the socio-economic development of the region cannot be over emphasized. While shared issues with shipping, marine fisheries, coastal maintenance, wildlife conservation and tourism unify the region, it is perhaps the almost annual devastation caused by hurricanes that defines the region.

The Gulf Coast has mild winters and hot summers, and supports a humid tropical and humid temperate climatic domain with tropical/subtropical divisions. These climates typically support coastal grasslands, coastal marshes and swamps, pine forests and pine mixed hardwood forests. The Environmental Protection Agency's map of US ecoregions delineates the following areas in the Gulf Coast: Western Gulf Coast Plain, Southern Central Plain, Southeastern Plains, South Central Plain, Mississippi Alluvial Plain, and Mississippi Loess Plain.

The Gulf Coast Cooperative Ecosystem Studies Unit (GC-CESU) was established in August 2002 as a partnership among universities, federal agencies and other nongovernmental organizations and provides a platform for partners to conduct research of mutual interest, encourage educational opportunities, and provide technical assistance across the region and beyond. It is a part of the national CESU network which covers 17 biogeographic regions across the US (map 1). The GC-CESU shares a common border with more (6) other members of the network than does any other CESU.

Objectives of the CESU network are to: (1) define and prioritize directions for future research, (2) conduct high-quality scientific research, (3) provide technical assistance, (4) foster cooperative educational programs, (5) provide educational opportunities for

students, (5) deliver timely, relevant research recommendations and technical assistance needed for adaptive management of natural resources to managers, (6) ensure the independence and objectivity of research, (7) create and maintain effective partnerships to share resources and expertise, (8) take advantage of university resources while benefiting faculty and students, (9) encourage professional development of federal scientists, and (10) manage federal resources efficiently.

Mission & Vision

The mission of the Gulf Coast Cooperative Ecosystem Studies Unit is to facilitate collaborative research, education and technical assistance pertaining to the human and natural environment, within and beyond the region, among federal and state agencies, universities, and nongovernmental organizations.

GS-CESU Management and Monitoring of Goals and Objectives

The GC-CESU is coordinated by three committees. First is the **Managers Committee** composed of a member from each federal partner. The major responsibilities of the Managers Committee are to provide advice and guidance and define research needs from their agencies and bring those needs to the other partners. Second is the **Executive Committee** composed of representative from the host university, a National Parks liaison, a second federal agency representative elected by the Managers Committee, and two elected members from partnering universities and nongovernmental organizations. The responsibilities of the Executive Committee is to bring recommendations regarding management of the GC-CESU to partners, facilitate day-to-day management of the GC-CESU, and assist with the planning and execution of the annual meeting. The third committee is **Partnership Committee** which is composed of one representative from each partner institution or organization. The responsibilities of the Partnership Committee are to provide information on their institution's needs and expertise to other partners and participate in the annual meeting.

List of Partners

Federal

Bureau of Land Management
Department of Defense
National Aeronautics & Space Administration
National Park Service
Natural Resources Conservation Service
US Forest Service
US Geological Survey-Biological Resources Division
Department of Army, Corps of Engineers

Institutions

Auburn University
Houston Advanced Research Center
Louisiana State University
Mississippi State University
Stephen F. Austin State University
Southern University and A&M College
Sul Ross University
Tarlenton State University
The Nature Conservancy
The University of Texas at Austin
The University of West Florida
Troy University
Texas A&M University-Corpus Christi
Texas A&M University-Kingsville
University of Arkansas-Division of Agriculture
University of Arkansas at Monticello
University of Central Florida
University of Florida
University of Georgia
University of Louisiana at Lafayette
University of New Orleans

Strategic Themes

Over the next five years (2008-2012) the GC-CESU will concentrate on the following themes.

- 1. Research Directions**
- 2. Critical Issues for the Management of Coastal Landscapes**
- 3. Understanding Ecosystem Change**

The order in which the themes are listed does not reflect their relative importance or a specific priority.

Research Directions

- Nutrient enrichment and contamination
- Landscape ecology & habitat diversity
- Restoration ecology
- Coastal Geomorphic processes
- Natural and cultural resource heritage
- Data and information exchange
- Environment and human health

- Alternative energy sources
- Water quality and quantity

Critical Coastal Management and Landscape Issues

- Shoreline erosion
- Eutrophication
- Climate Change and accelerated sea level rise
- Exotic species expansion
- Overexploitation of renewable natural resources
- Vector-borne diseases and insect pests
- Biodiversity and habitat loss

Understanding Ecosystem Change

- Coastal uses
- Impact of inter-coastal waterways
- Development and support of expanded commerce
- Oil exploration and development
- Population growth management
- Tourism
- Land manager issues and concerns
- Issues related to land use dynamics
- Urban and rural interface

Project Activities

Project activities undertaken by the GC-CESU will be designed and implemented as to achieve one or more of the following benefits:

1. Enhance sustainable management of natural resources on public and private lands
2. Improve communication and cooperation between universities, nongovernmental organizations and federal partners
3. Increase collaborative research, technical assistance and education opportunities among universities, nongovernmental organizations and federal partners
4. Foster ecosystem-based approaches to resource management problems
5. Establish a basis for adaptive management

2008-2010 Specific Goals

1. **Secure at least one new federal sponsor:** Primary target is Federal Emergency Management Agency (FEMA), Department of Homeland Security

2. Increase federal and for-profit corporate participation:

1. Target increase in annual funding is 10-25%
2. Secure projects and funding from each federal agency
3. Initiate new joint projects with at least two for-profit corporations and federal partners
4. Present CESU benefits and opportunities to unexplored audiences
 - a. Military installations
 - b. University Departments
 - c. Corporate entities

3. Increase multi-institutional cooperatively funded projects:

1. Concentrate on natural disasters as well as potential terrorist activities as the issue that can unite the CESU university partners, particularly those with land grant mission
2. Market benefits of land grant universities communication network (extension and research units throughout the states forming a unique conduit) as well as rapid funding opportunities through CESU following times of disaster, for multi-state/multi-federal partners initiatives (e.g. endangered species issues), etc.
3. Present universities and nongovernmental organizations capabilities for rapid response and provide interface between federal and state agencies sharing emergency responsibilities

4. Increase project management and distribution of deliverables:

1. Design and implement new methods to document project progress and completion
2. Encourage, aid in, and document the dissemination of project deliverables