Florida Climate Institute

Introducing The Florida Climate Institute

A Joint Institute of the University of Florida and Florida State University

James W. Jones
Agricultural & Biological Engineering Department
University of Florida

UF UNIVERSITY of FLORIDA

FLORIDA STATE UNIVERSITY 1851

Florida Climate Institute

Outline

- Why another Institute?
- An evolutionary process
  - The Southeast Climate Consortium (SECC)
  - BOG Center of Excellence Proposal
- FCI Goals & Objectives
- Current Status & Plans

UF UNIVERSITY of FLORIDA

FLORIDA STATE UNIVERSITY 1851

Florida Climate Institute

Why an Institute?

- Major challenges to society associated with climate change, climate variability, and sea level rise
- Increase awareness of and cooperation among disparate climate projects in and among our universities
- Major progress on understanding the global climate and its changes, but less on changes at local to regional scales

UF UNIVERSITY of FLORIDA

FLORIDA STATE UNIVERSITY 1851

Florida Climate Institute

Why an Institute?

- Lack of understanding of how society should respond to climate change information at local to regional scales and at multiple time scales over which decisions, policies are made
- Many questions without answers in Florida on climate change, sea level rise, and associated decisions and policies
- Success of the SECC during the last 10 years

UF UNIVERSITY of FLORIDA

FLORIDA STATE UNIVERSITY 1851

Southeast ClimateConsortium

NOAA-Sponsored Regional Integrated Science Assessment (RISA) Center; Funding also from USDA-RMA and USDA-NIFA, …

- 1998 – the Florida Climate Consortium
  - Climate science – FSU
  - Agricultural responses – UF
  - Social, economic issues – UM
- 2003 – Broadened to SECC
  - U Georgia
  - U Alabama-Huntsville
  - Auburn U
  - North Carolina State U
- 2010 – Successful Re-bid for RISA

SECC (www.SEClimate.org)

From 1998 – 2010

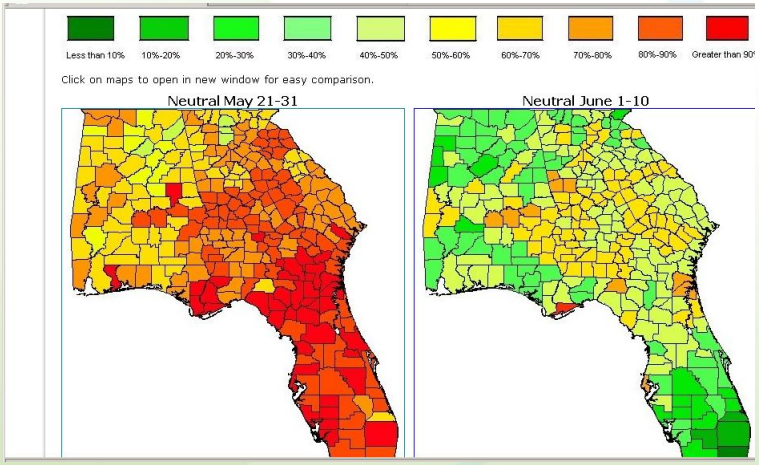
- Emphasis on agriculture, water resources management
- Seasonal climate variability and forecast information use
- Interdisciplinary, about 60+ scientists (social, climate, agricultural, economics, engineers, …)
-

SECC (www.SEClimate.org)

From 1998 – 2010

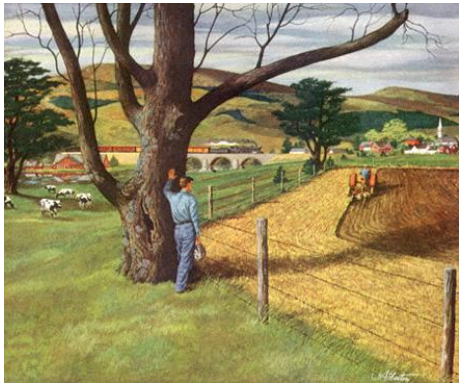
- Research – climate risk management, decision analysis framework, assessment of stakeholders and SECC products
- Extension – integral part of program via climate extension specialists

Forecasting: Drought …….. and Irrigation Requirements

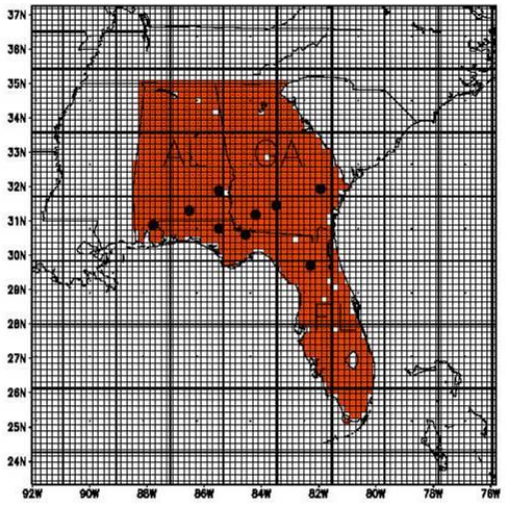


Florida Climate Institute

Example SECC Research and Extension



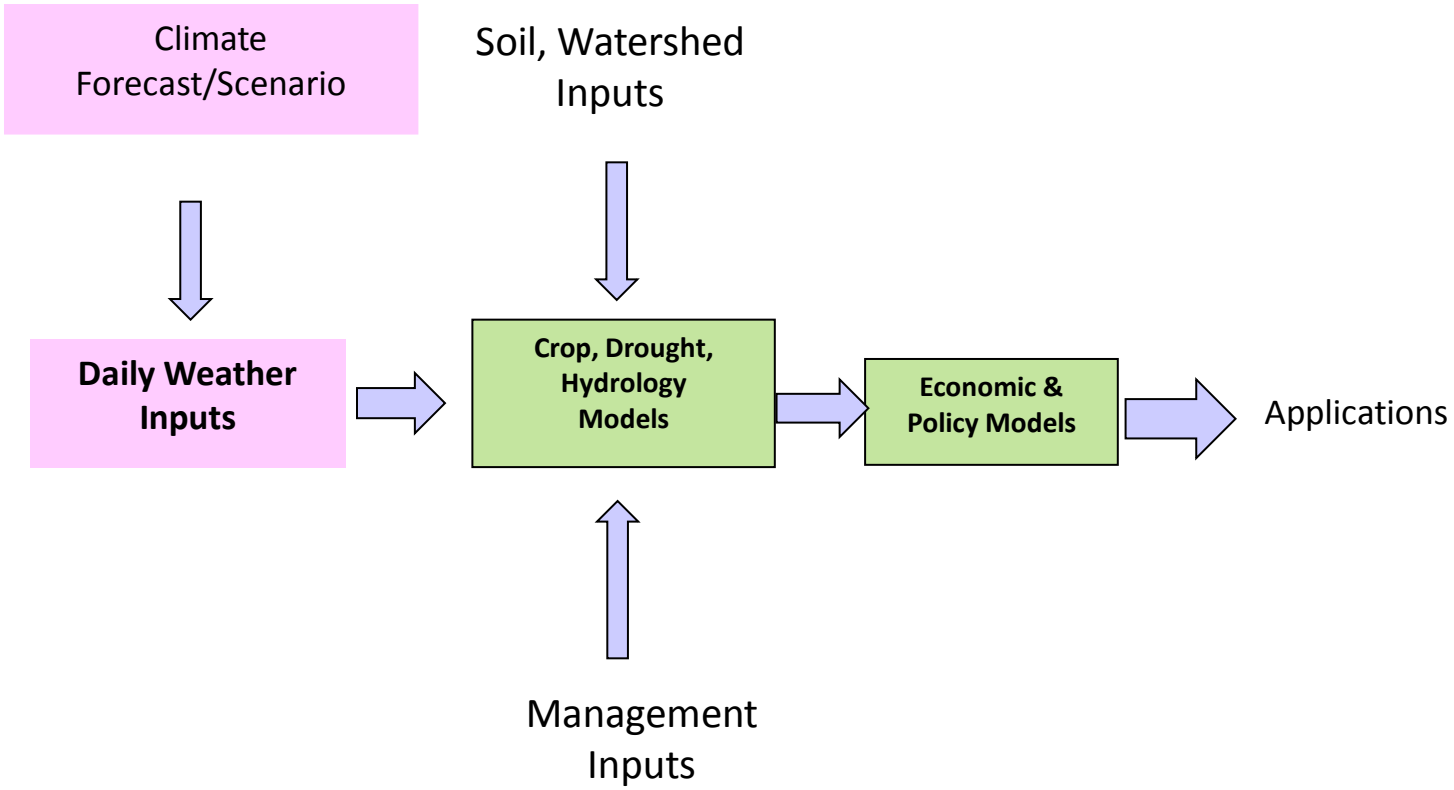
- SECC-RISA in Florida, Georgia, Alabama. SECC USDA also includes North Carolina and South Carolina.
- Many projects; a few are highlighted here



Southeast ClimateConsortium

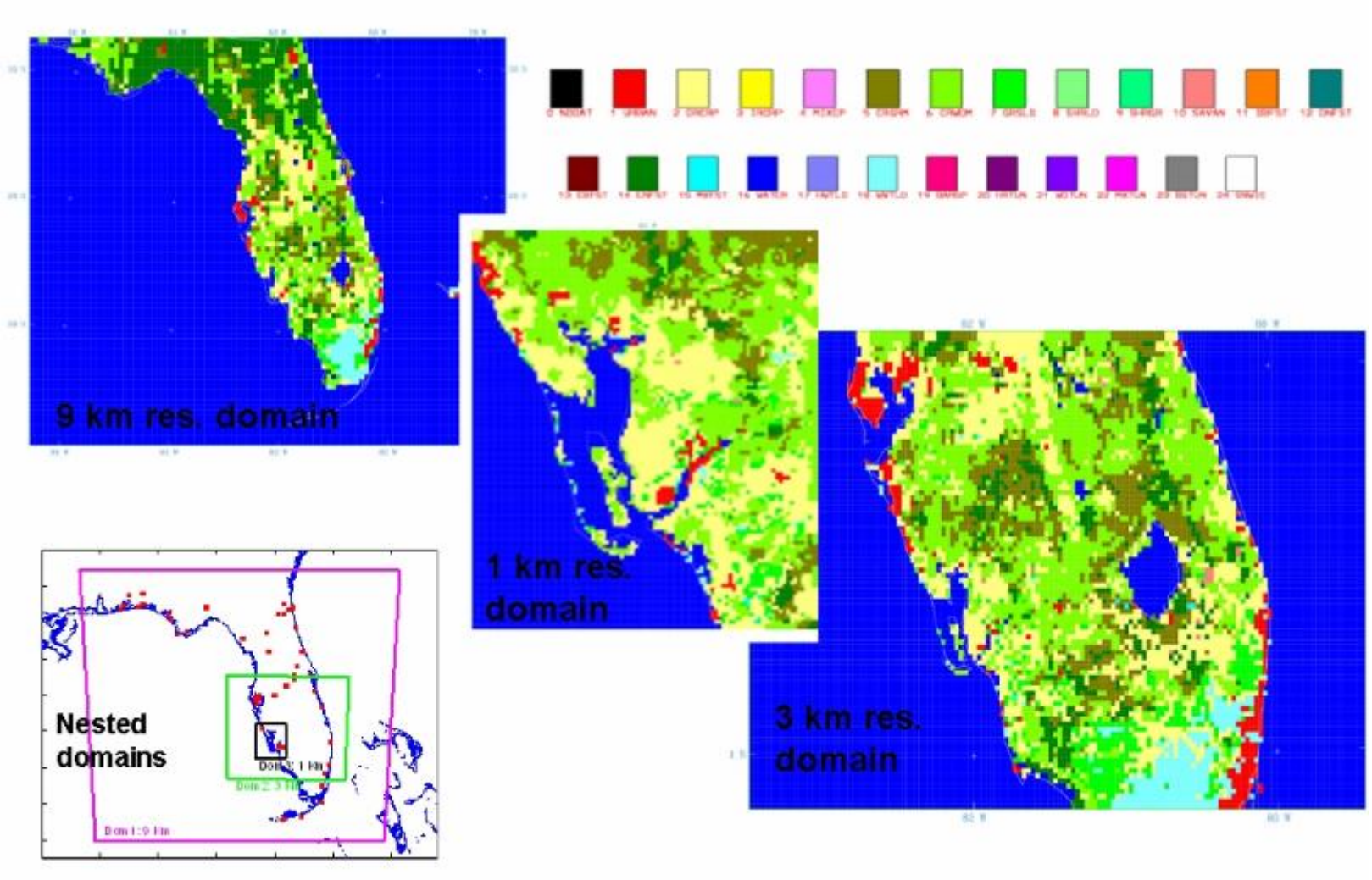
Florida Climate Institute

Integrating Climate, Agriculture, Hydrology, Economic Models (tightly and loosely coupled models)



Florida Climate Institute

Regional Climate Models

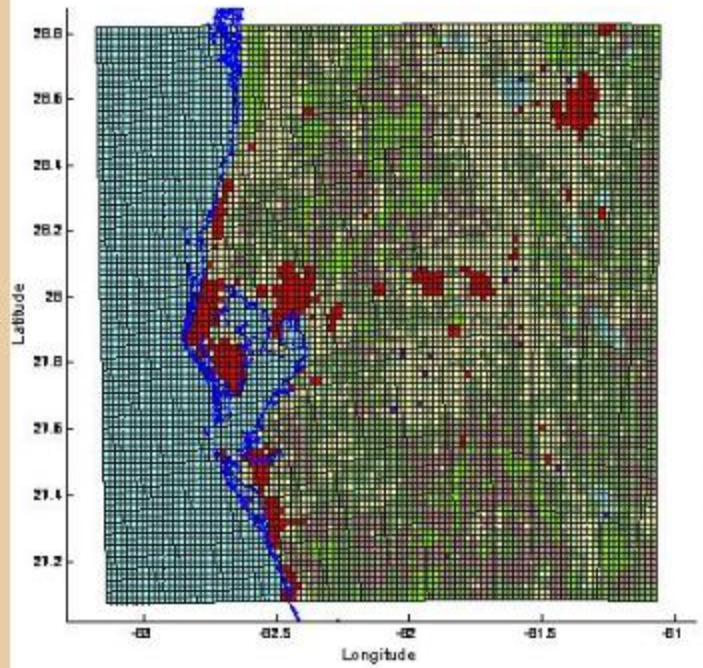


Florida Climate Institute

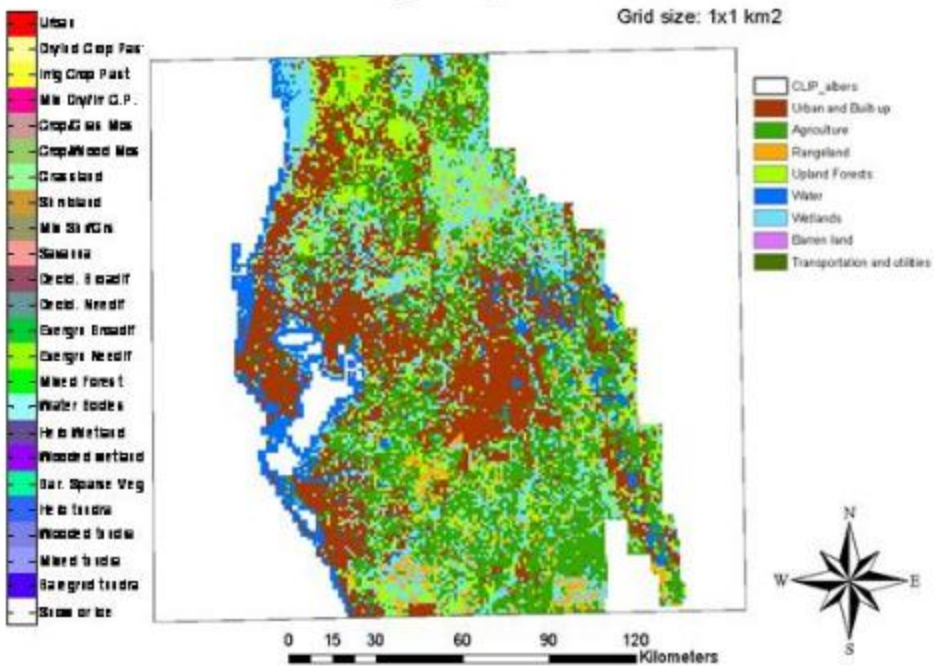
Climate – Land Use Interactions

Land Use Change and Climate Variability

1992-1993 Land Use:
USGS data for Climate Modeling

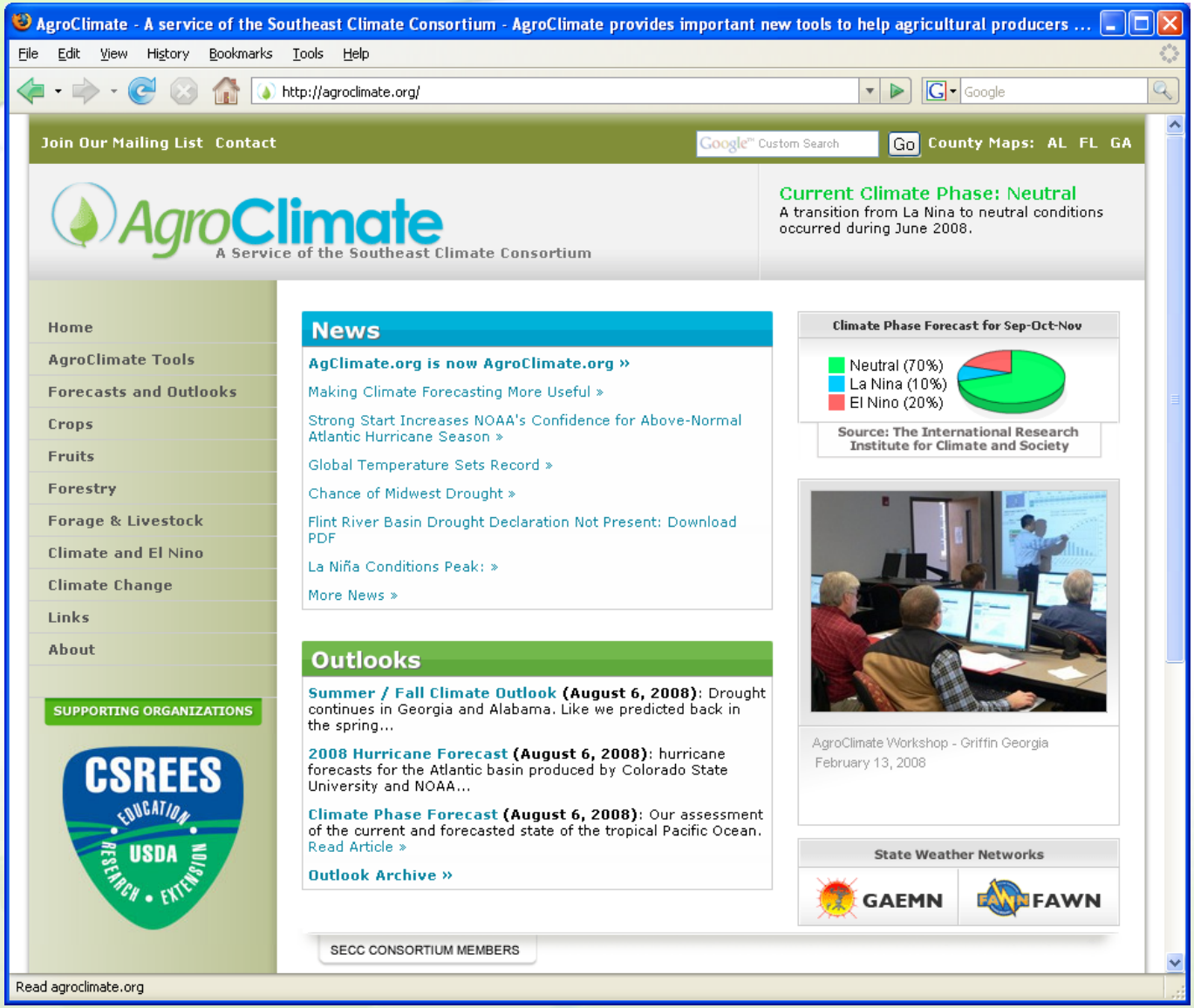


2006 Land Use:
Southwest Florida Water Management District
(resample data)



Southeast ClimateConsortium

http://*Agro*Climate.org



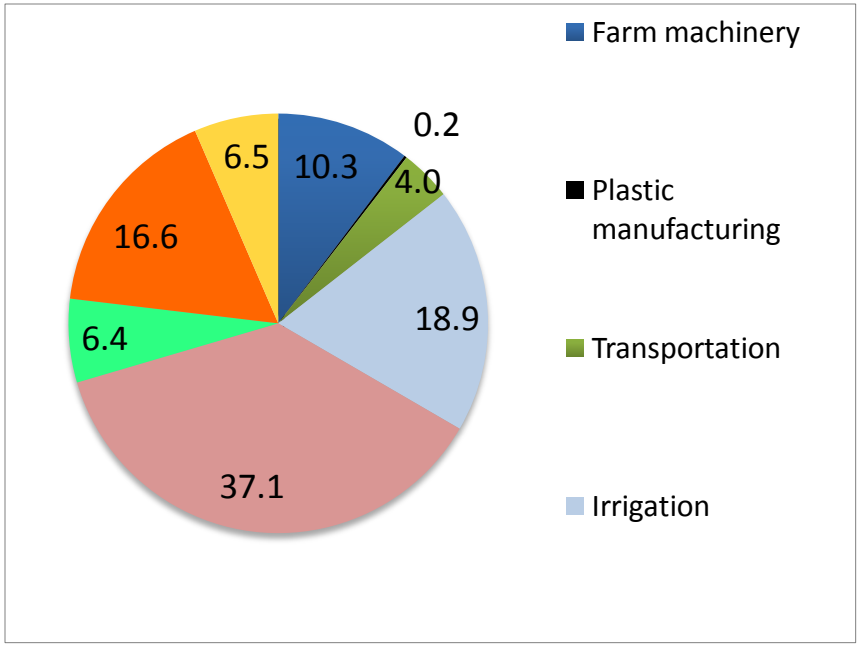
Operational since August 2008

Hosted by Florida Cooperative Extension at UF

Open-Source AgroClimate Project, multiple states, countries

Mitigation: Reducing Carbon Footprint

Strawberry Production



0.33 lbs CO2e are emitted to produce 1.0 lbs of strawberry

Clyde W. Fraisse et al.

Cow Calf Production System

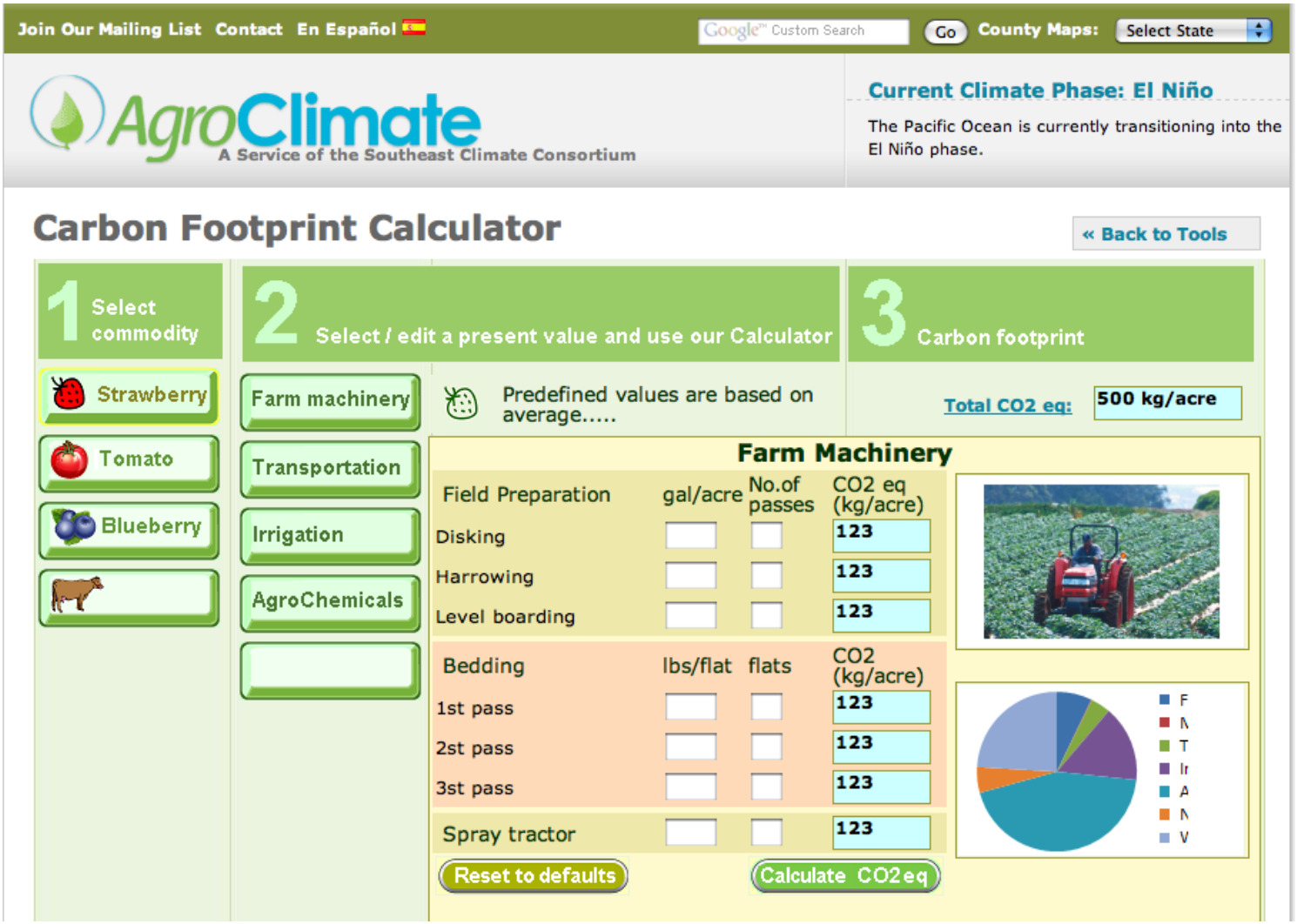
CARBON FOOTPRINT BASELINE FOR COW CALF PRODUCTION SYSTEMS: BUCK ISLAND RANCH

MacArthur Agro-ecology Research Center
a division of Archbold Expeditions

Florida Climate Institute

Florida Climate Institute

Web-based carbon Footprint calculator



Florida Climate Institute

Open-Source DSS Project

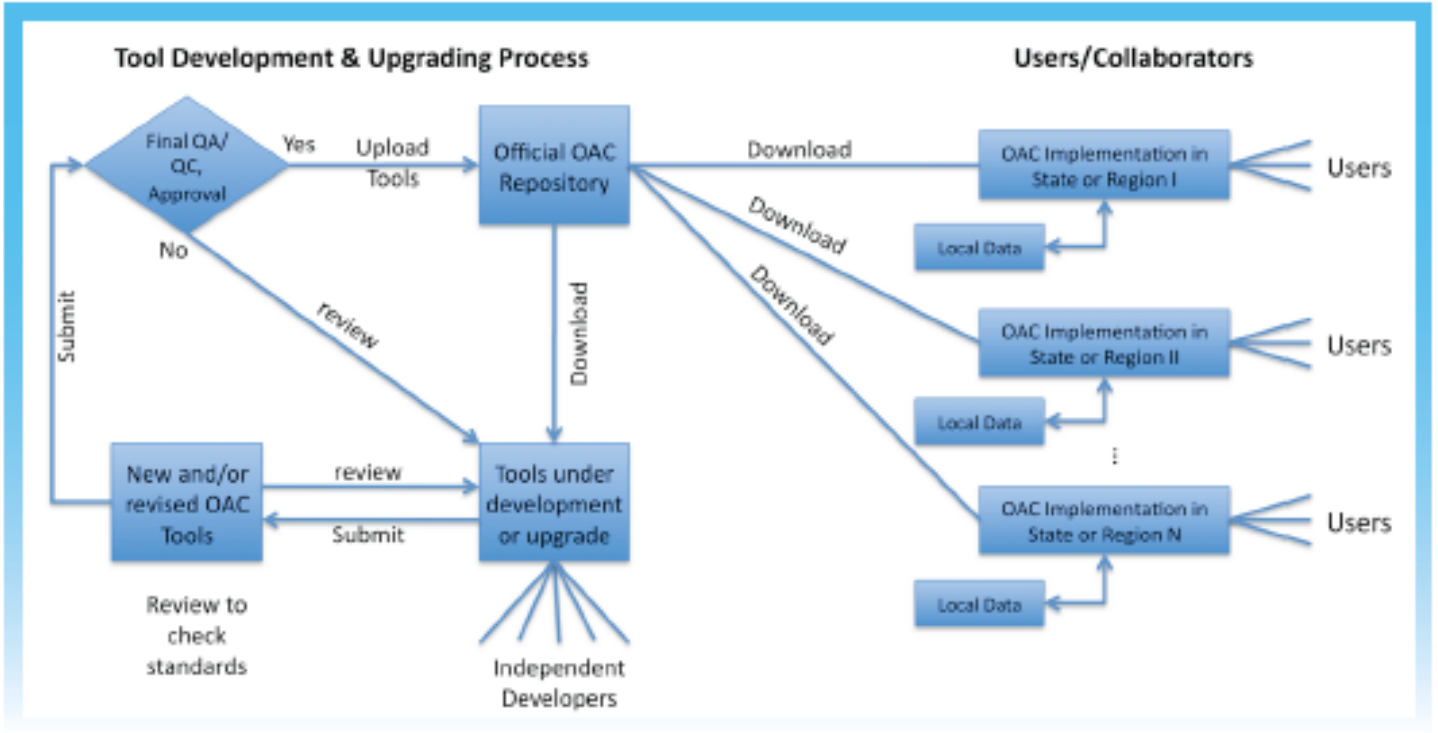
Open-AgroClimate: An Open-Source Initiative To Help Agriculture Manage Climate Risks

What is Open-AgroClimate?

Open-AgroClimate allows users to collaborate, use, copy, change, expand, improve, and redistribute the software in modified or unmodified forms. It is developed in a public and collaborative manner, where the participants are people, not companies. This approach provides better quality, higher reliability, more flexibility, lower cost, faster development, and sustainability in the long run.

Florida Climate Institute

OpenAgroClimate.org



Contact

James W. Jones, Ph.D.
Agricultural & Biological Engineering Department
University of Florida
jimj@ufl.edu

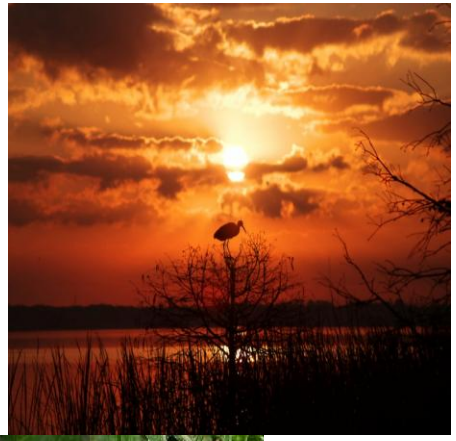
Clyde W. Fraisse, Ph.D.
Agricultural & Biological Engineering Department
University of Florida
cfraisse@ufl.edu

Willingthon Pavan, Ph.D.
Geosciences & Exact Sci. Inst.
University of Passo Fundo
Brazil
pavan@upf.br

Proposed Center of Excellence for Climate Technologies & Preparedness (2007/8)

What We Learned: Strong Interest in:

- Developing market advantage re: carbon footprint
- Biofuel production
- Climate forecasts or projections from weeks to decades
- Technologies for reducing risks to climate variability and to climate change
- Land use, management for environmental services, payments
- Carbon sequestration in forestry, agriculture

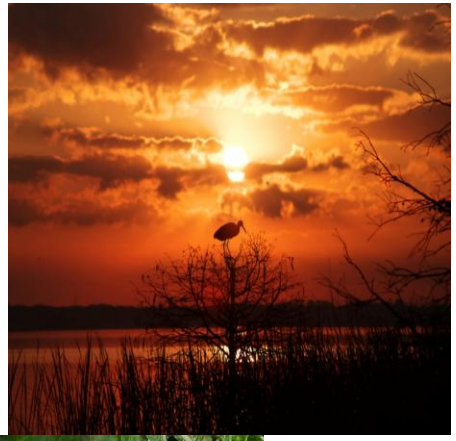


Florida Climate Institute

Proposed Center of Excellence for Climate Technologies & Preparedness (2007/8)

What We Learned: Strong Interest in:

- Sea level rise, coastal adaptation
- Ecological & environmental risks
- Recreation impacts and adaptation
- Drought, hurricane frequency
- Water policy
- Water withdrawal, allocation



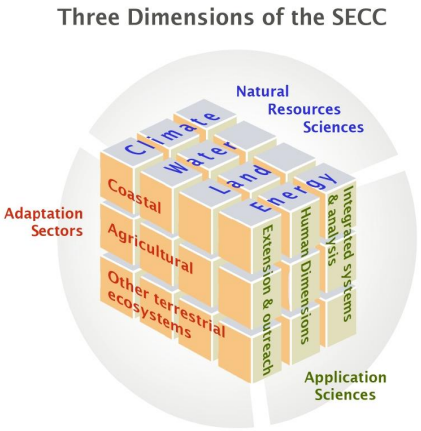
Florida Climate Institute

Florida Climate Institute

The New SECC: 2010 – 2015

Florida Climate Institute

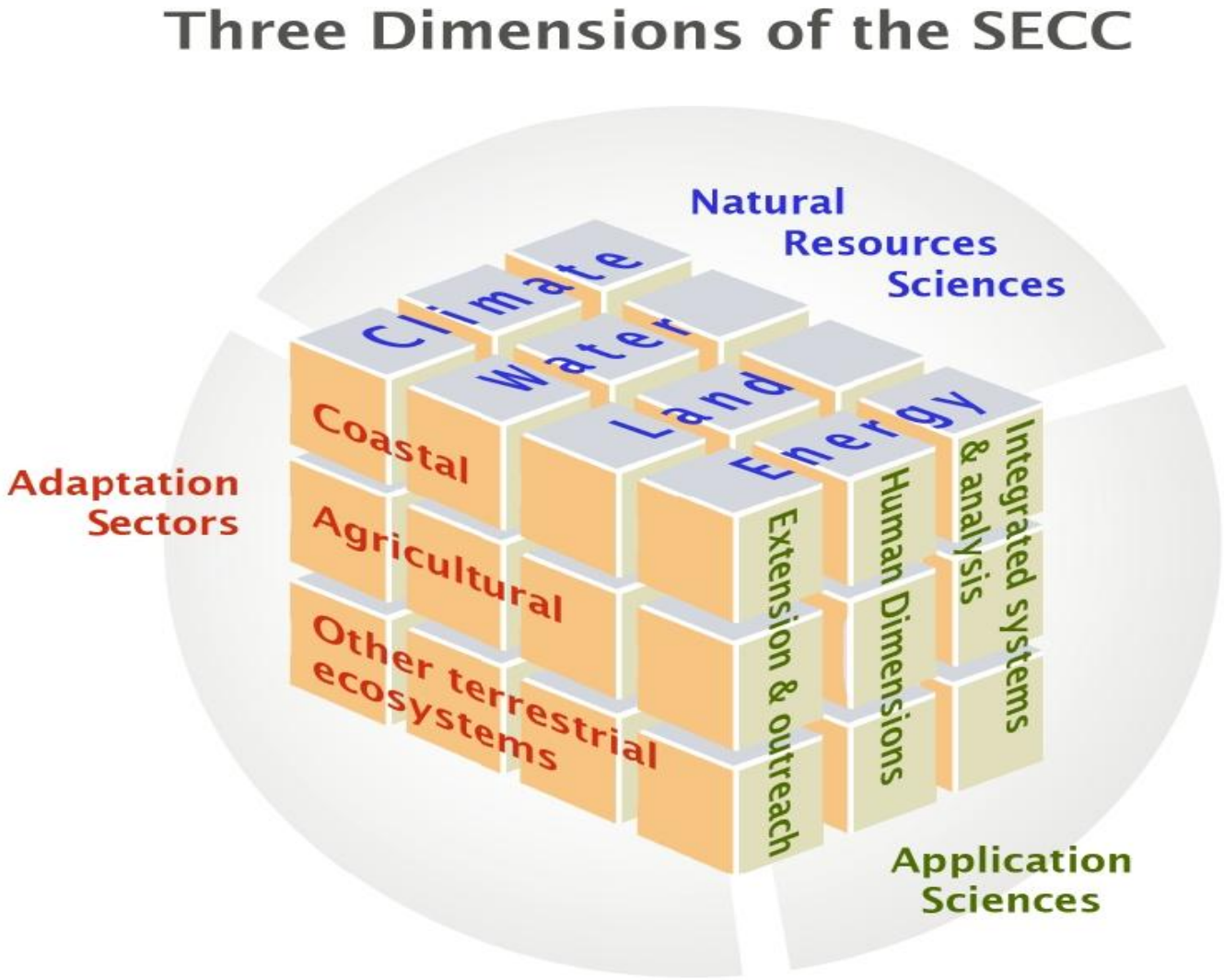
The NEW SECC



- 2010 – 2015 (possibly through 2020)
- Build on successes of first 10 years
- Expand scope to include climate change adaptation and mitigation
- Expand scope to include other terrestrial ecosystems and coastal ecosystems (not just ag and water)
- Contribute to next National Assessment
- Contribute to NOAA's climate services initiative and to NIDIS
- Situated in the Florida Climate Institute as one major Center already funded

Florida Climate Institute

The New SECC: 2010-15



Florida Climate Institute

FCI Mission

Develop scientific understanding of climate change interrelationships with society and the environment at local to regional scales and develop technologies, decision support information, and policy options needed by society best respond to those changes

Florida Climate Institute

Florida Climate Institute (FCI) Goals

The FCI will achieve its mission by fostering interdisciplinary research, education, and extension to:

- Improve understanding of the processes and effects of climate variability, climate change, and sea level rise on the economy and on natural and human-built systems

Florida Climate Institute

Florida Climate Institute (FCI) Goals

and to:

- Develop technologies and information for reducing economic and environmental risks in managed and natural systems and to support environmental policies
- Engage society in research, extension and education programs for enhancing adaptive capacity and responses to associated climatic risks (Florida, USA, and Internationally)

Florida Climate Institute

Objectives

- Develop & make widely available climate change and climate variability scenarios & datasets
- Develop innovative approaches & tools for incorporating climate change & sea level rise into policy and decision making processes for land, water, and natural resources

Florida Climate Institute

Objectives

- Engage public and private sectors, providing them information to assess benefits and tradeoffs among different decision and policy response options
- Develop methods that use climate change information to build resiliency and adaptive capacity at local to regional scales that are globally applicable

Florida Climate Institute

Current Status

- Seed funding provided by UF Research VP, and Deans of IFAS and CLAS, and by FSU administration
- Paperwork submitted at UF and FSU for official designation as a joint institute in the SUS
- Various proposals are underway for federal funding
- Discussing location, possibly co-locating with the Water Institute at UF; located in COAPS at FSU
- Initiatives for expanding support for the institute via state , federal, or private funding are underway, including building space

Florida Climate Institute

Proposed Schematic of the Florida Climate Institute

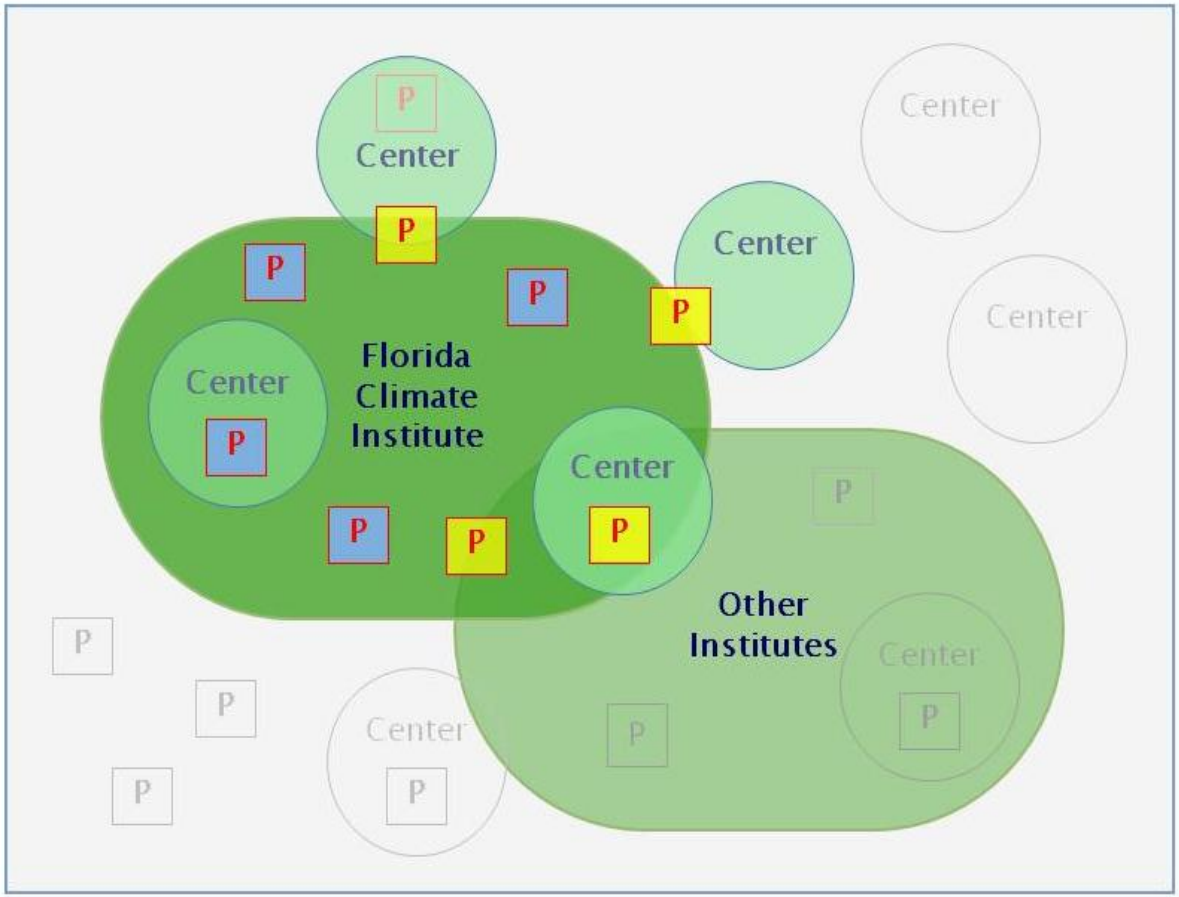


Figure 1. This diagram summarizes components of the FCI and its partners, on- and off-campus.

Florida Climate Institute

FCI Initial Leadership

- Director – J. W. Jones (UF)
- Co-Director – Eric Chassignet (FSU)
- Management Team – Jane Southworth (Co-Director – UF), Keith Ingram (UF), Wendy Lin Bartels (UF), others – ??? (FSU)
- UF FCI Coordinator – being hired this week
- Steering Committee – currently a temporary steering committee of 16 people, this will be changed
- Other personnel as approved by UF and FSU administrators for two years
- Web site (still unannounced): www.FloridaClimateInstitute.org

Florida Climate Institute

Funded Projects in FCI

FCI Planning Grant	Jim Jones	jimj@ufl.edu	UF
Southeast Climate Consortium RISA	Keith Ingram	kingram@ufl.edu	NOAA
Climate change impacts on iconic cropsagriculture	Jim Jones	jimj@ufl.edu	NCEP
Climate change impacts on agriculture in the SE	Jim Jones	jimj@ufl.edu	NASA-ROSES
Southern Africa Climate Variability ?	Jane Southworth		NASA
Using Climate Information for Agricultural Risk Reduction	J. O'Brien		USDA
Others at UF and FSU (Martinez, Kiker, Morris, ???)			

Florida Climate Institute

FCI Proposals In Progress

Science to Systems to Sustainability	Lynda Hayes	NSF
IGERT	Jack Putz	NSF
Climate Change Education Program	Jane Southworth	NSF
Climate Education	Mark Rieger	USDA/NIFA/ AFRI
Climate Research	Ken Boote	USDA/NIFA/ AFRI
Climate Extension	Joan Dusky	USDA/NIFA/ AFRI
Climate Regional -- southern pine	Tim Martin	USDA/NIFA/ AFRI
Agricultural adaptation and mitigation science	Keith Ingram	NSF/USDA
Water and Climate	W. Graham/J. Jones, R. Reddy	NSF
Others at FSU and UF ???		

Florida Climate Institute

Web Site

Florida Climate Institute

Home

Home
About
People
Programs
Projects
Events
Publications
Presentations
News
Links

UF UNIVERSITY of FLORIDA

Welcome to the Florida Climate Institute!

OUR VISION is to prepare society to build a sustainable future based on an improved understanding of and effective strategies for responding to climate variability and climate change, so that we can manage climate risks to the economy, natural and managed ecosystems, and the built environment.

A Snack for the Blue Jay.
by Katie Albers, Second Place Winner of Earth Day Photo Contest for Institute for Global Enviromental Strategies.

News & Updates

"Understanding the past to predict the future: Climate change in temperate and tropical systems".
Date: March 18th, 2010 Time: 9:30 AM Venue: G001 McCarty Hall D

Submit your News here >>

Home | About | People | Programs | Projects | Events | Publications | News | Links | Contact
Contact Webmaster

The Major Work Lies Ahead

Florida Climate Institute