Southeast ClimateConsortium

Southeast Climate Consortium
Open*Agro*Climate

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Presented to Climate in a Box Workshop
22 March 2010, Greenbelt, MD

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1785

Outline

- Introduction to the SECC
- *Agro*Climate and Open*Agro*Climate
- Challenges and needs

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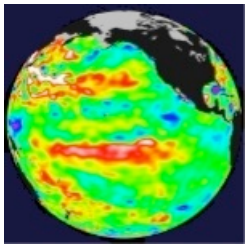
SECC Mission



The mission of the Southeast Climate Consortium is to use advances in climate sciences, including improved capabilities to forecast seasonal climate and long-term climate change, to provide scientifically sound information and decision support tools for agricultural ecosystems, forests and other terrestrial ecosystems, and coastal ecosystems of the Southeastern USA.

As a multi-disciplinary, multi-institutional team, the SECC conducts research and outreach to a broad community of potential users and forms partnerships with extension and education organizations to ensure that SECC products are relevant and reliable.

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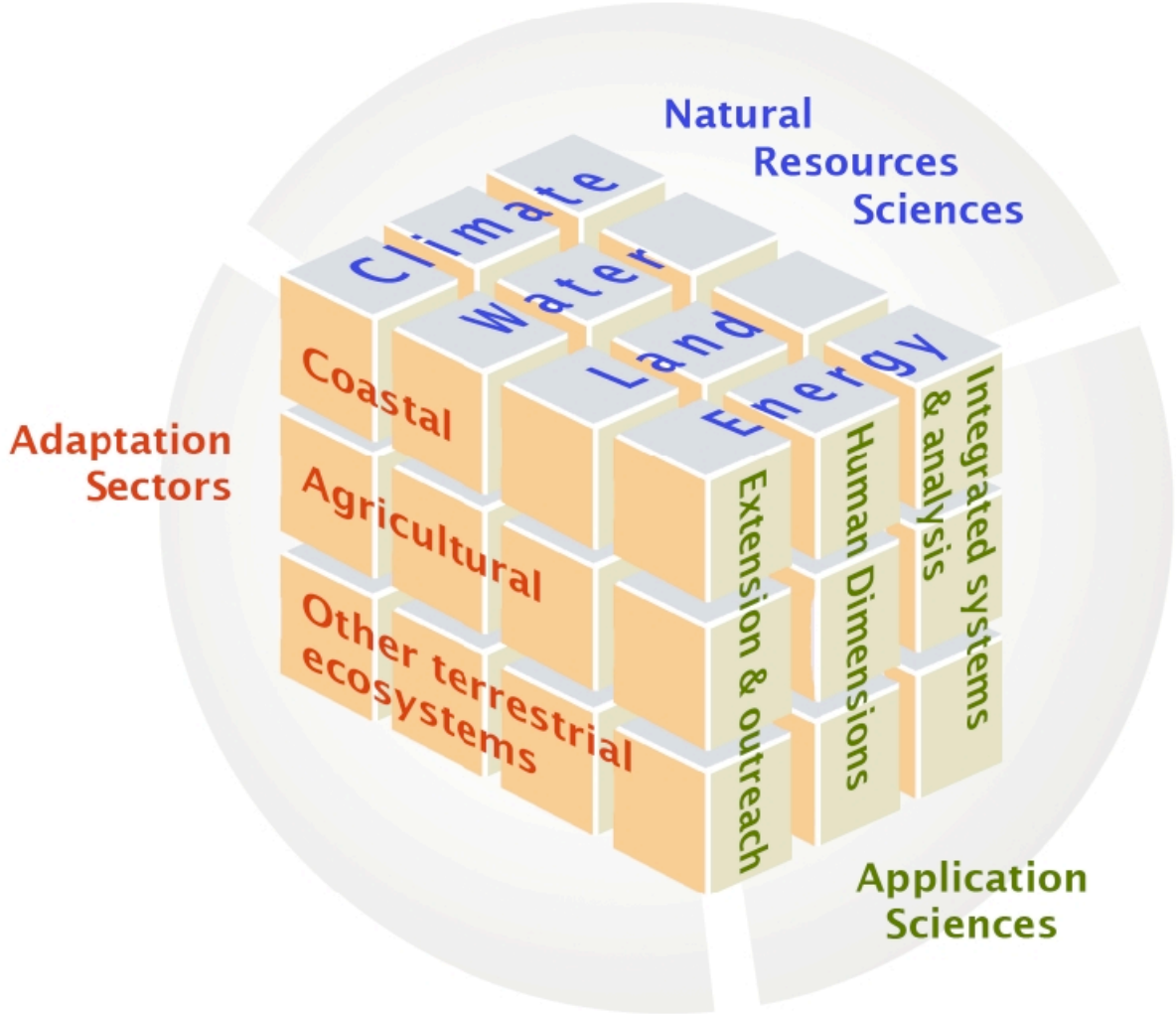
Three Dimensions of the SECC



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Guiding Principals

- Emphasize collaboration to combine strengths of different institutions
- Multi-disciplinary activities: physical, biological, and social sciences
- Partnership with extension; and other boundary organization
- Involve end users from the beginning

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Decision Support System Development Process

Phase 1	Phase 2	Phase 3	Phase 4
Conceptual Prototype	Prototype Testing	Operating Product	Open Source
Data collection & analysis	Prototype design	Transition to boundary organization operations	User adoption & boundary organization deployment
User engagement & needs assessment	User feedback & assessment	User feedback & impact assessment	Science community for research & support

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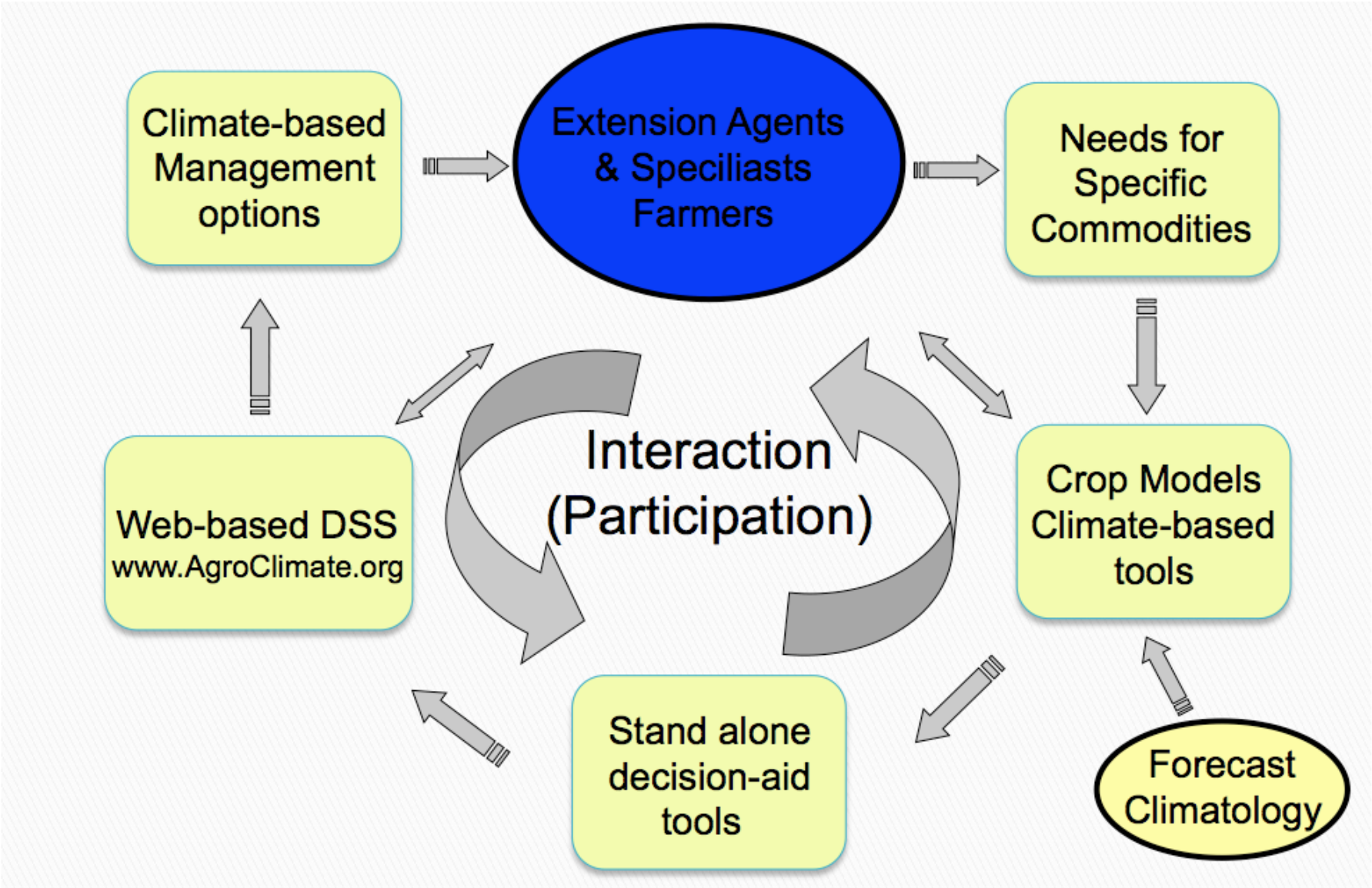
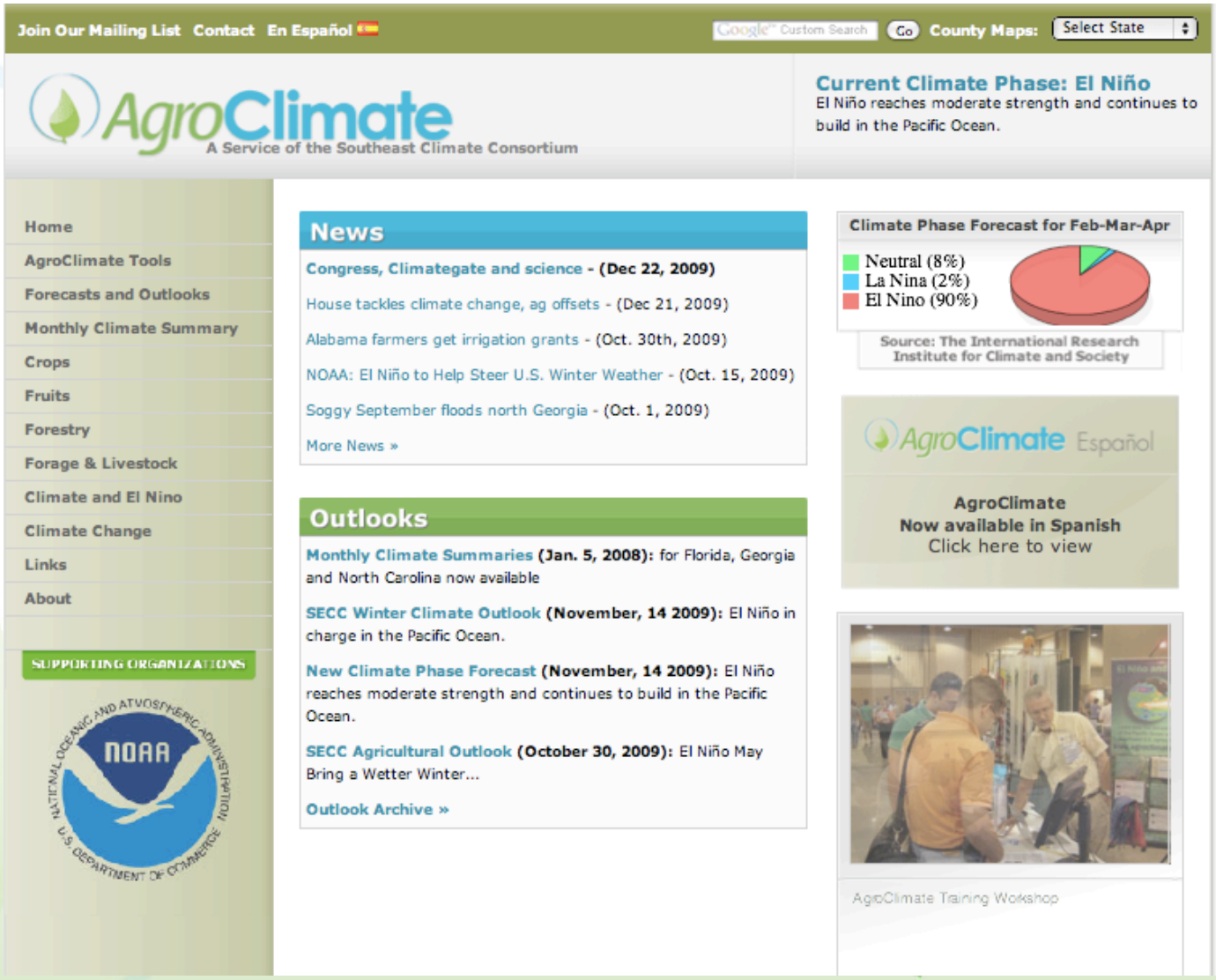
Development of *Agro*Climate



*Agro*Climate.org

*Agro*Climate is a web-based decision support system, which was developed by the SECC and is now hosted by Florida Cooperative Extension

SECC tools use various crop models, including DSSAT simulation models, and diverse weather data



AgroClimate
A Service of the Southeast Climate Consortium

Current Climate Phase: El Niño

El Niño reaches moderate strength and continues to build in the Pacific Ocean.

Cooling / Heating Degree Days

« Back to Tools

HELP

Heating Degree Days

State + County

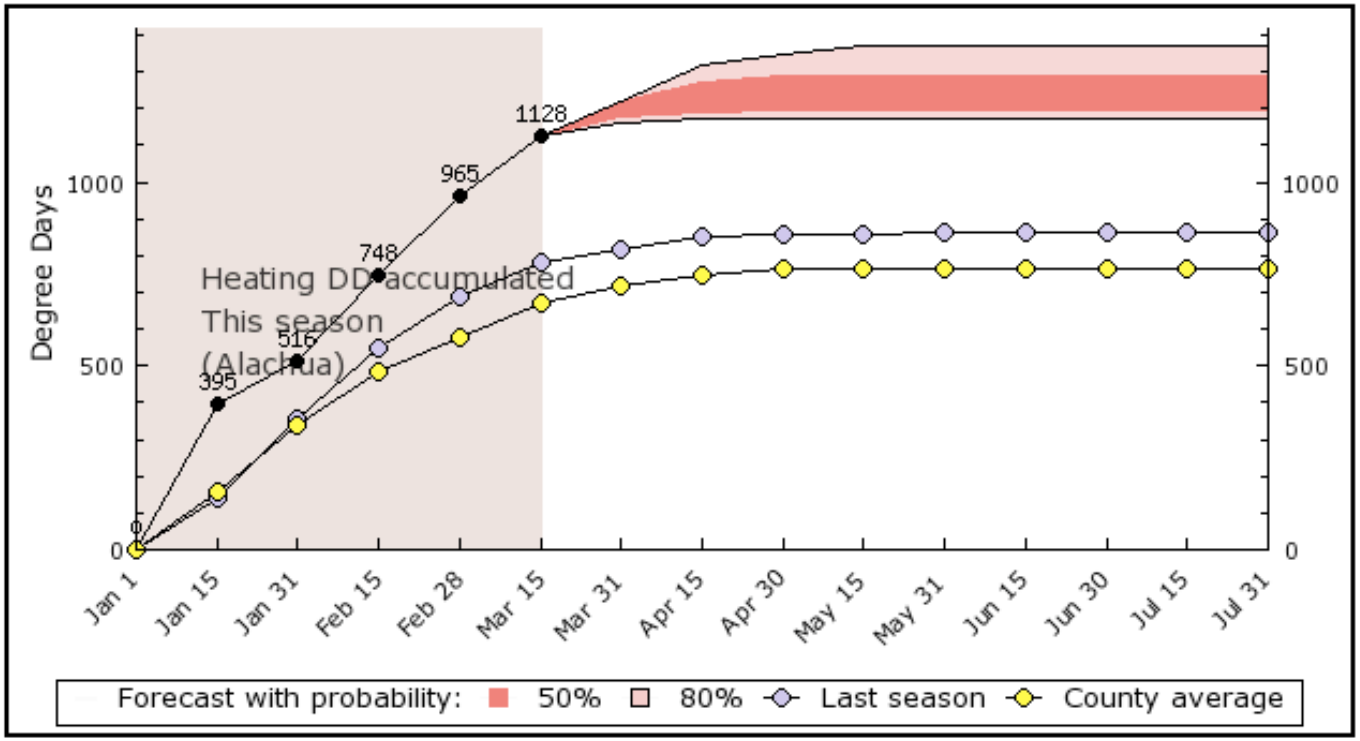
FL ALACHUA

Starting Date

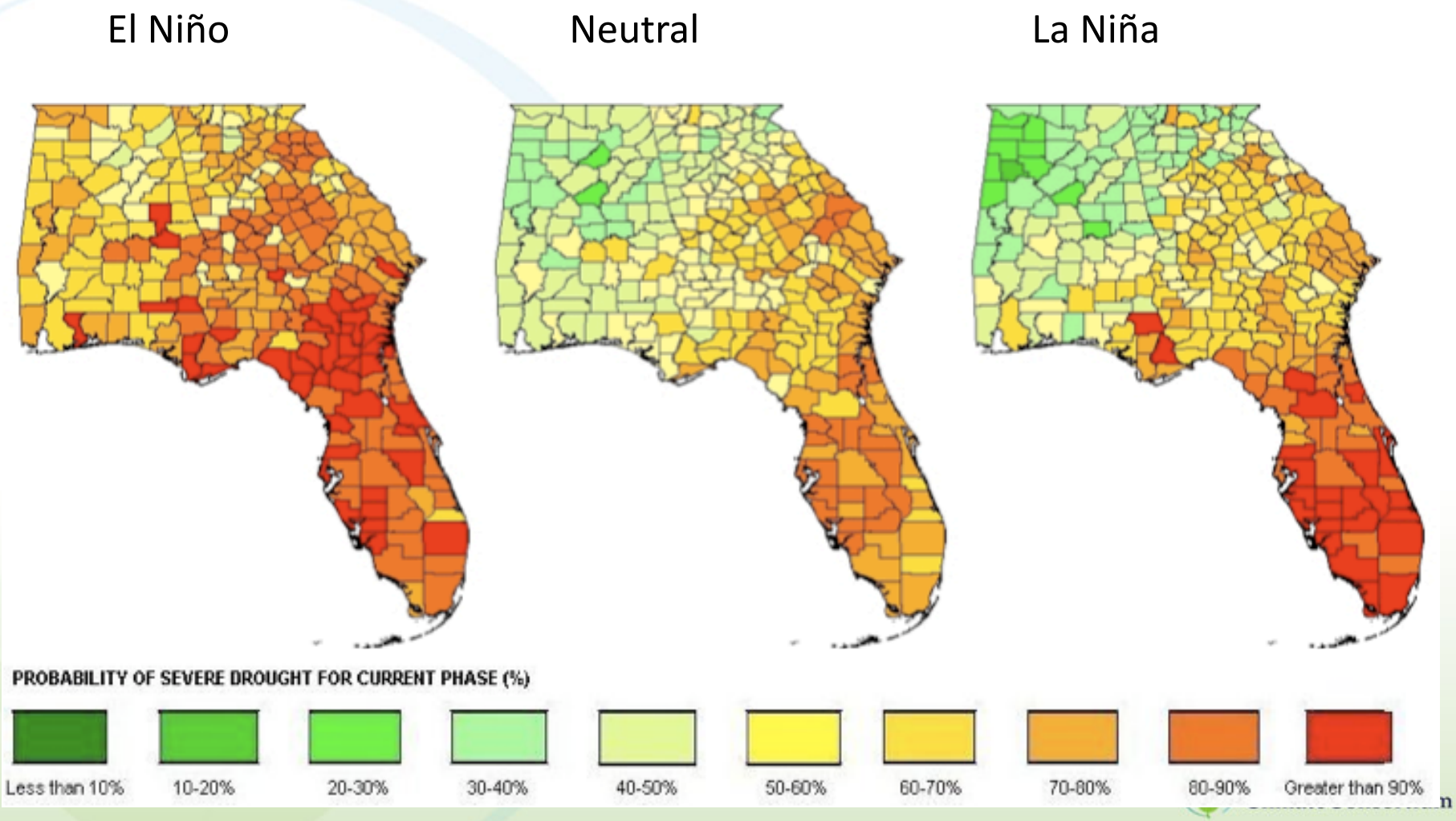
Jan 1 2010

- NEUTRAL
- EL NIÑO
- LA NIÑA

Cumulative Heating DD ☑ Show County Average ☑ Show Last Season



P (LGMI) < -1.5 for April 21-30

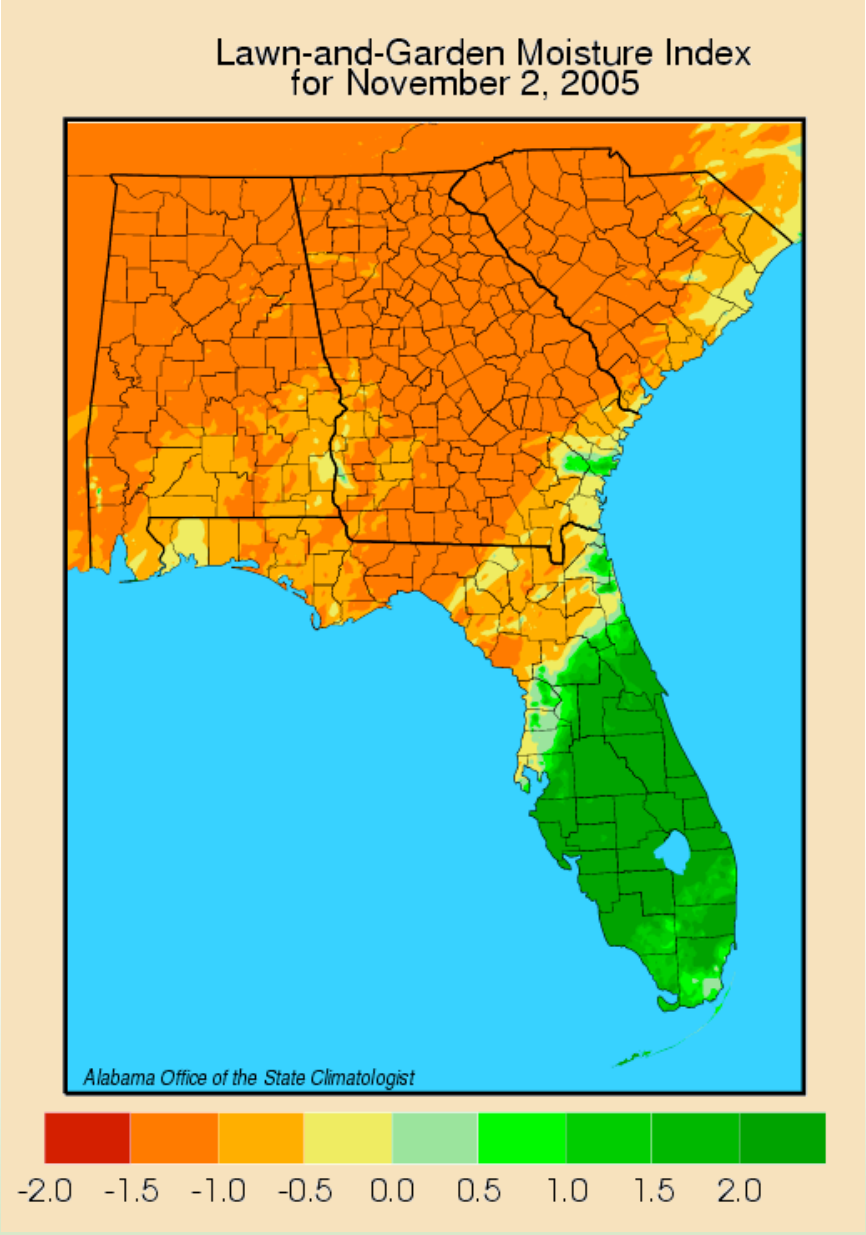


Lawn and Garden Moisture Index

Daily rainfall from NWS Doppler radar observations 4 m x 4 m

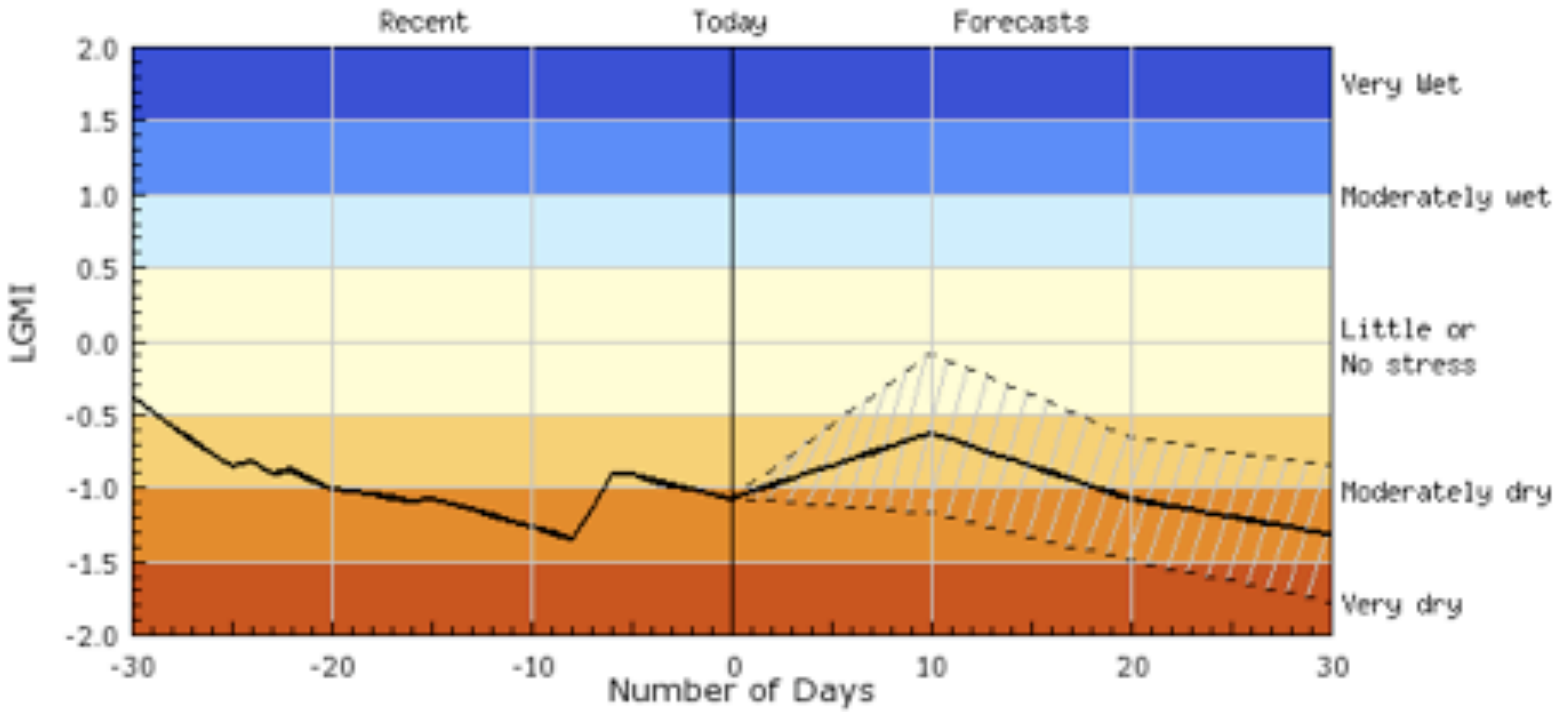
Shows both spatial and temporal variability in drought

The simplicity of LGMI, however, includes weaknesses in both physics and physiology



http://elnino.agen.ufl.edu/forecasts/LGMI/JPGraph.php?COOPID=319476

COOP:WILSON 3 SW, County:WILSON, State:NC Date:03/21/10



The probability of very dry condition for day 0-10 is 0,
for day 11-20 is 0.272727273, and for days 21-30 is 0.727272727.
The probability of very wet condition for day 0-10 is 0,
for day 11-20 is 0, and for days 21-30 is 0.

The left side of this graph shows the LGMI for the previous 30 days as calculated from observation collected at the weather station selected. The right side of the graph shows the expected values of LGMI for the next 30 days based on historical average LGMI for the current climate phase (the solid middle line) as well as the cone of 66% probability, which is the shaded area between the top and bottom lines.

Strawberry Disease Tool

« Back to Tools

Select the station/county:

Lake Alfred/Polk

Draw the limits of County

News: **2009-11-06 15:00:40**
Strawberry Disease Tool

AgroClimate.org provides a set of tools to help producers reduce risks associated with climate variability. In particular, the Strawberry Diseases Tool can help you with recommendations for timing fungicide applications for Anthracnose and Botrytis fruit rot.
» more detail.

Publications | Contact US | Fungicide List | Disclaimer

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Lake Alfred Station

Recommendations | **Disease Simulation** | **Weather** | **Contact** | **Disclaimer**

Spray Recommendation

» When was your last fungicide application?

○ Last 7 days ⊙ More than 7 days ○ None

» Select product(s) used*:

* Use Ctrl or Shift to select more than one.

Abound (Anthracnose) – Systemic
Cabrio (Anthracnose) – Systemic
Captan (Anthracnose, Botrytis) – Contact
Captevate (Botrytis) – Systemic

» Is it the current peak bloom?

○ Yes ⊙ No

View Recommendation

Botrytis: Spray Contact Fungicide (Products recommended: Captan, Thiram)
Anthracnose: Spray Contact Fungicide (Products recommended: Captan)

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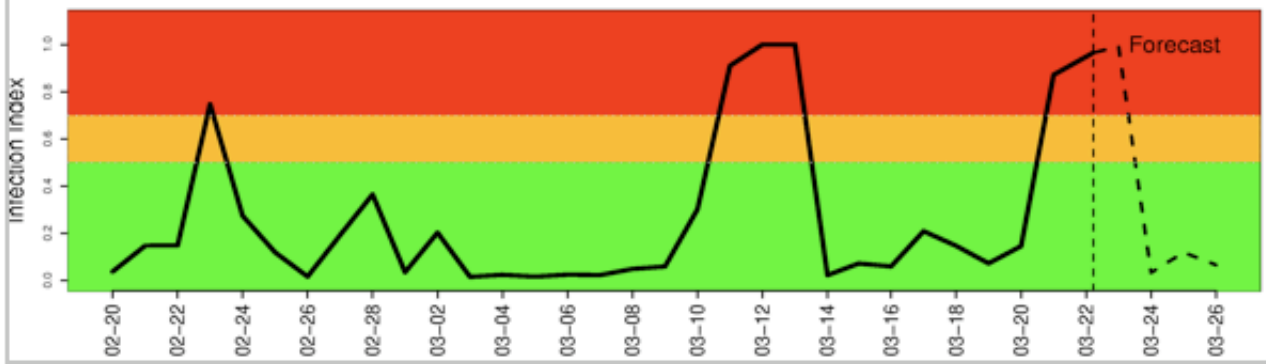
Lake Alfred Station

Recommendations | Disease Simulation | Weather | Contact | Disclaimer

» Botrytis | Anthracnose

Botrytis Simulation Output

High risk | Moderate risk | No risk
(Click on the graph to expand it)



Date	LWD	Temp (F)	Temp (C)	Infection Index	Description
2010-03-25	6.00	58.58	14.77	0.0655	No risk
2010-03-24	10.00	54.00	12.22	0.1187	No risk
2010-03-23	4.00	53.50	11.94	0.0328	No risk

Publications | Contact US | Fungicide List | Disclaimer

Open source *Agro*Climate

http://open.agroclimate.org/s/

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Open-AgroClimate
An Open-Source Initiative for AgroClimate.org

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- Home
- Docs
  - Creating a plugin
- Forums
- Contact
- Wiki

Communication

- Google Groups

Posts

- Brochures (1)
- FAQ (3)
- First Workshop (6)
- Second Workshop (3)

Home

Welcome to *Open-AgroClimate*! This is an Open-Source initiative for A*groClimate.org*, a climate information and decision support system for managing agricultural and natural resources in the Southeast USA.

The main objective of *Open-AgroClimate* is to help ensure that AgroClimate continues to evolve to address a wide range of climate-based crop risk management issues after the original implementation project ends. It will also ensure that that codes are fully documented and follows the best programing standards and database design, facilitating its transfer to other states, countries, and organizations with a minimum effort and at a reduced cost.

Open-AgroClimate Brochure: **click here to download it.**

2nd Open-AgroClimate Workshop

Click here for more information.

Recent Posts

- Location: 2nd Open-AgroClimate Workshop
- Lodging: 2nd Open-AgroClimate Workshop
- Agenda: 2nd Open-AgroClimate Workshop

Climate & Weather Links

- AgroClimate.org
- Florida Automated Weather Network
- Georgia Automated Environmental Monitoring Network
- National Climatic Data Center
- NOAA Climate Prediction

Motivations for Open Source

- Easier application to new locations
- Improved sustainability
- Broader range of inputs
- Greater accessibility and usage
- Lower costs of development

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Challenges and needs

- Short historical record of high resolution data leads to discontinuity between monitoring and forecasting
- Ground stations with daily data have many gaps
- Few ground stations have the full range of data needed for estimation of evapotranspiration

The end result is that we cobble data from satellites, Doppler radar, and ground stations, each with different temporal and spatial scales

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Please visit us at:

- *Agro*Climate.org
- *SE*Climate.org
- Open.*Agro*Climate.org