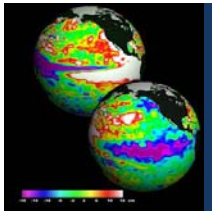


Climate and Crop Specific Outlooks Available on AgClimate.org

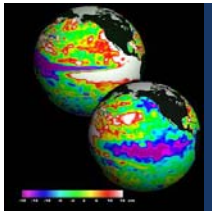
David F. Zierden

Center for Ocean-Atmospheric Prediction Studies
The Florida State University
Tallahassee, FL

Climate Prediction and Application Science Workshop
March 21-24, 2006
Tuscon, AZ

SOUTHEAST CLIMATE CONSORTIUM
AGRICULTURE CLIMATE WATER

COAPS



SECC Partners

SOUTHEAST CLIMATE CONSORTIUM
Agriculture CLIMATE WATER

Florida State Univeristy *— climate studies, coupled modeling, climate forecasts, forestry*

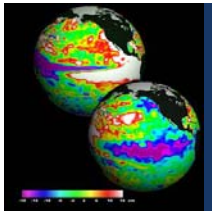
University of Florida *— extension, crop modeling, decision support tools*

University of Miami *— climate, economics, water resources, assessment*

University of Georgia – *climate, extension, crop modeling*

University of Auburn – *extension, economics, insurance*

University of Alabama Huntsville – *climate, water resources*

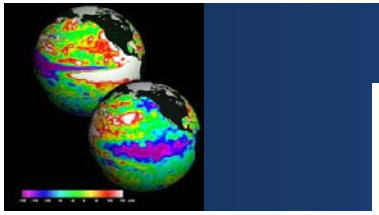


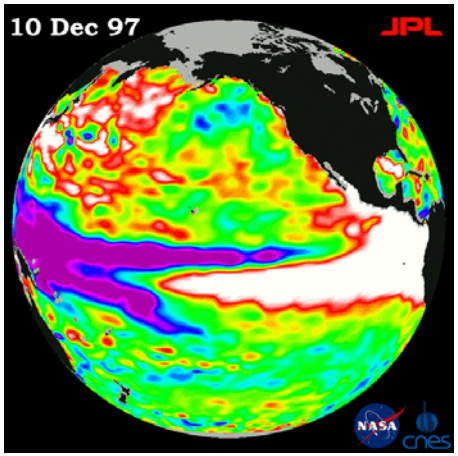
Making Decisions

Requires the understanding of a wide range of scientific and technical information!

First Lessons Learned

- Concise information
- Simple and easy to understand
- Timely and up to date
- Local information (county scale)
- Comes from a trusted source - partnership with extension
- Historical context





www.agclimate.org

AgClimate

http://www.agclimate.org/Development/apps/agClimate/controller/

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SOUTHEAST CLIMATE CONSORTIUM

AgClimate

Map for county selection: AL | FL | GA

Customized Info. Enter county and state

AL Go!

Home Help Contact

Current Climate Phase: La Niña

AgClimate Tools
Forecasts
Crops
Forestry
Pasture
Livestock
Climate & El Niño
Your Feedback
About

Welcome to

AgClimate

A Service of the Southeast Climate Consortium

Why... Climate is a major factor in virtually all aspects of food, feed, and fiber production and marketing.

What... AgClimate gives the latest forecasts showing how El Niño and La Niña could affect agricultural production and natural resources in the Southeast.

How... AgClimate provides important new tools to help producers understand and plan for climatic conditions.

Seasonal Outlooks NEW!

Winter/Spring Climate Outlook
updated for La Niña

Peanut Outlook

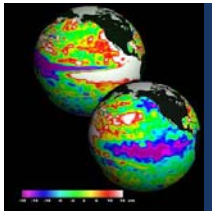
Flint River Drought Protection Act 2006 Announcement
GA Department of Natural Resources

Consortium Members

Supporting Organizations

COAPS · University of Florida IFAS · Miami · 1785 · UAH · NOAA · RMA · USDA

Weather Networks



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SOUTHEAST CLIMATE CONSORTIUM

AgClimate

Map for county selection: AL | FL | GA

Customized Info. Enter county and state ▶ JACKSON , FL

Home Help Contact

Current Climate Phase: La Niña

Forecasts / Regional Forecasts

Avg./Deviation | Freq. Prob. | Prob. of Exceed. | Last 5 Years | Prob. Shifts

Latest Climate Forecast

Current Climate Phase:

La Nina

Location (State & County)

Alabama

Florida

Georgia

County

JACKSON

Climate Variables

Tot. Rain (in.) | Extreme Min T

Avg. Min T | Extreme Max T

Avg. Max T | Heating DD

Cooling DD

Analyze based on El Nino Phases

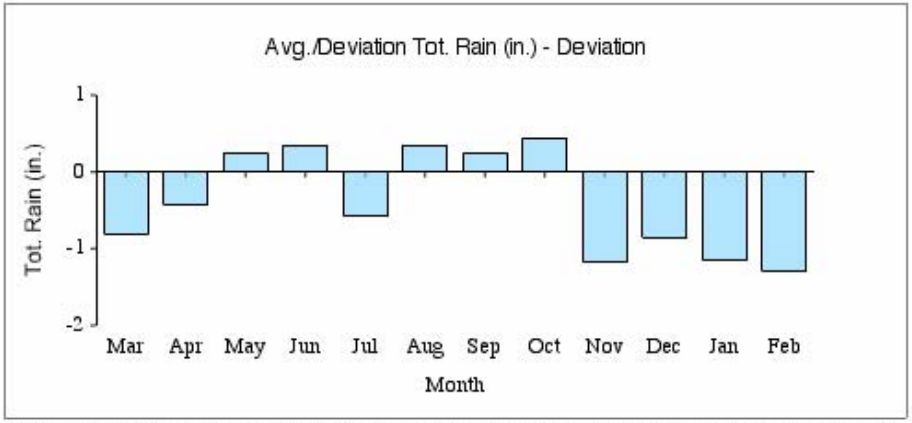
Neutral | La Nina

El Nino | All Years

Tot. Rain (in.) - Avg./Deviation - JACKSON COUNTY, FL for La Nina

RAIN	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Rainfall	5.19	3.86	4.42	5.88	6.21	6.13	5.11	3.27	2.4	3.32	3.82	3.41
Deviatic	-0.8	-0.43	0.25	0.35	-0.58	0.35	0.24	0.44	-1.17	-0.85	-1.15	-1.29

Deviation = Difference from forecasted conditions and averages for historical data records since 1950



Select a row in the table to visualize forecast averages and deviations from long term averages

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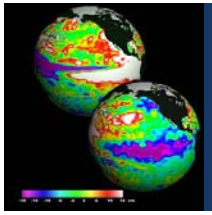

AgClimate

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SOUTHEAST CLIMATE CONSORTIUM

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Map for county selection: AL | FL | GA

Customized Info. Enter county and state: JACKSON , FL

Home Help Contact

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Latest Climate Forecast

Current Climate Phase:

La Nina

Location (State & County)

Alabama

Florida

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JACKSON

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Avg. Min T | Extreme Max T

Avg. Max T | Heating DD

Cooling DD

Analyze based on El Nino Phases

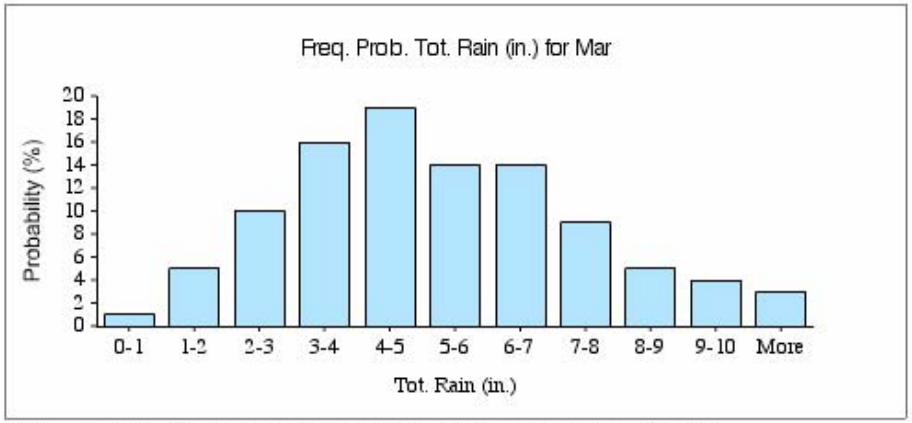
Neutral | La Nina

El Nino | All Years

Tot. Rain (in.) - Freq. Prob. - JACKSON COUNTY, FL for La Nina

RAIN	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
0-1	1	7	5	0	0	0	3	10	19	4	4	4
1-2	5	17	11	4	2	4	8	15	35	16	21	14
2-3	10	23	18	9	5	11	16	19	27	25	25	20
3-4	16	19	20	12	13	15	19	18	14	21	22	22
4-5	19	15	15	16	15	17	16	14	5	16	12	21

Each column represents the frequency probabilities for the selected climate variables in a month of a year, from Jan. to Dec.



Select a column in the table to visualize results for the correspondent month

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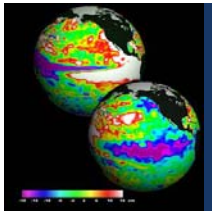

AgClimate

http://staging.agclimate.org/Development/apps/agClimate/contr

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SOUTHEAST CLIMATE CONSORTIUM

AgClimate

Map for county selection: AL | FL | GA

County/State MITCHELL , GA

Home Help Contact

Current Climate Phase: La Niña

AgClimate Tools / Yield Risk

Yield Prob. | Yield Prob. of Exceeding | Nitro. Leaching Prob. | Avg. and Derivation

Latest Climate Forecast

Current Climate Phase:

La Nina

Crop: PEANUT

Variety: Georgia Green

State: GA

County: MITCHELL

Soil: Norfolk Loamy Sand

Management Variables

Irrigated: N

Nitrogen: 0 lbs/ac

Avg Yield (lbs/ac): 2400

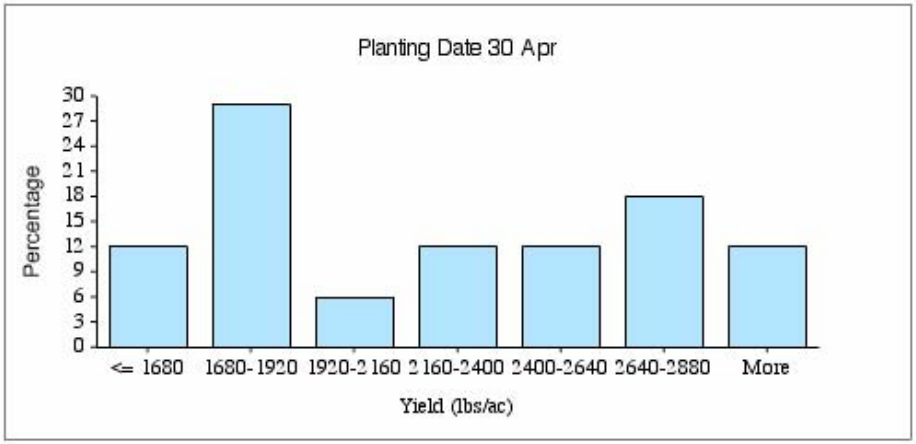
Analyze based on El Nino Phases

Neutral | La Nina | El Nino | All Years

Yield (lbs/ac) for PEANUT (Georgia Green) - La Nina - MITCHELL, GA

lbs/ac	15 Apr	22 Apr	30 Apr	7 May	14 May	21 May	28 May
<= 1680	18	18	12	18	24	18	18
1680-1920	24	29	29	24	18	24	41
1920-2160	12	6	6	6	24	29	6
2160-2400	6	6	12	18	6	0	6
2400-2640	12	6	12	6	0	0	0

Each column represents a planting date. It is important to analyze planting dates not only in terms of yielding well but also looking at the probabilities (risk) of obtaining low yields.



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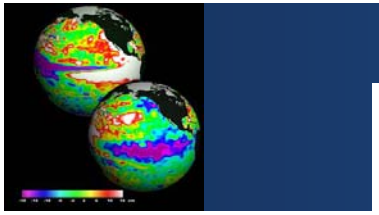
More Lessons Learned

- Traditional climate variables not always meaninful
- Return rate low
- Repeat exposure aids understanding
- Users unable to make quick conclusions
- Information needs to be interpreted
- No real entry or starting point



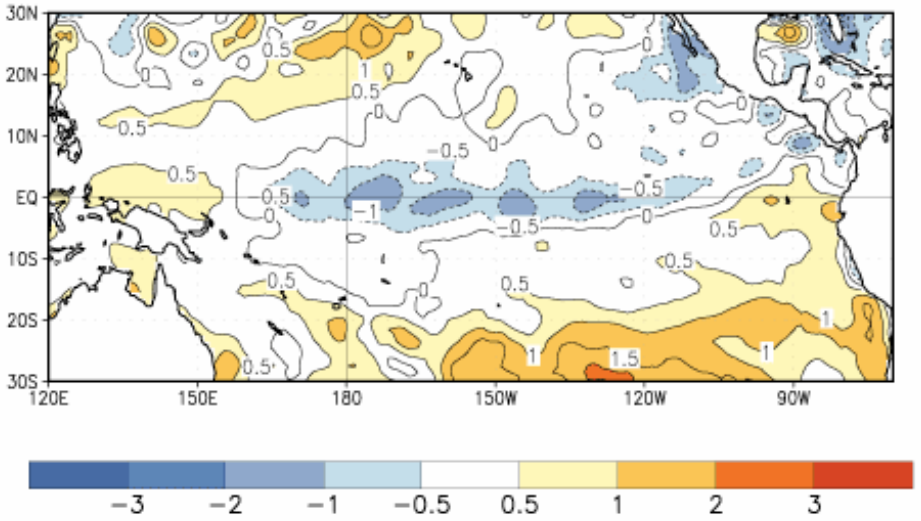
Climate Outlooks

- Quarterly, focus on next 3-6 months
- Simple language
- “No forecast” does not mean “no information”
- Highlights seasonal issues or threats
- No more that 2 pages

SECC Spring Climate Outlook
Date Issued: March 10, 2006

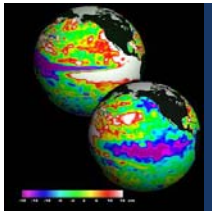
Return of La Niña - After nearly two years of near normal sea surface temperatures in the tropical Pacific (Neutral conditions), cooling began to take place in the far eastern Pacific near the coast of South America during October. Initially, the cooler waters were confined to this region, but have since spread westward to the international date line. The pattern of unusually cold sea surface temperatures is now taking the classic La Niña configuration. This La Niña event is unique in the sense that it is highly unusual for a cold (or warm event, for that matter) to form so late in the season. Historically, formation usually begins by late summer or fall, and the event approaches maturity by the early winter months. For more information on conditions in the Pacific Ocean, please refer to our La Niña discussion: El Niño/La Niña Discussion

Average SST Anomalies
5 FEB – 4 MAR 2006

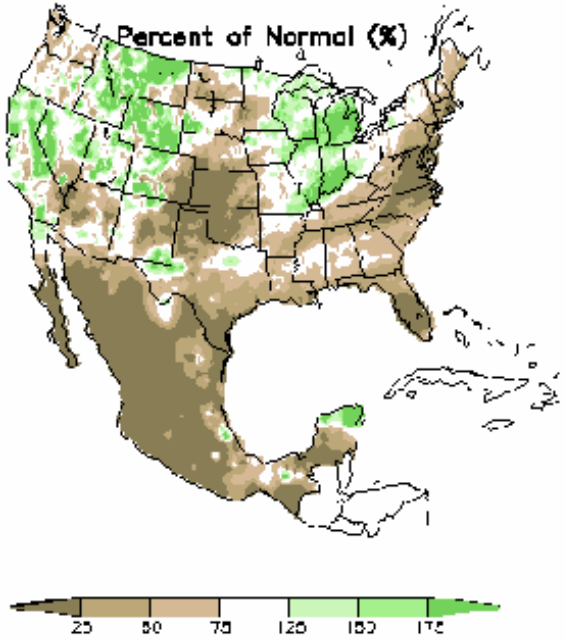


Sea surface temperature anomalies averaged over the last month (C).

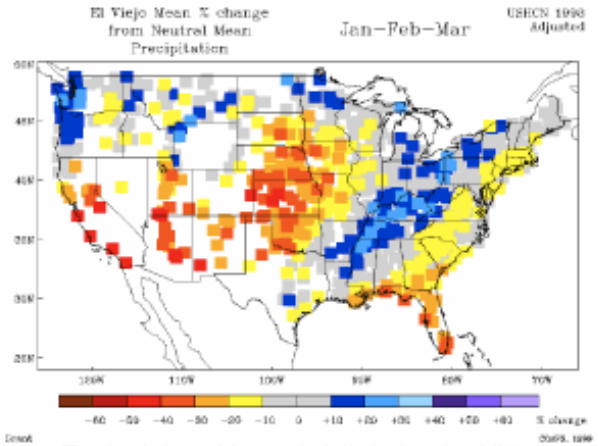
General Climate Outlook for the Spring - The classic La Niña climate pattern in the Southeast U.S. corresponds to Fall, Winter, and Spring seasons that are generally warmer and 20% to 40% drier than normal. La Niña is also known to bring an active wildfire season to Florida and the coastal plains of Alabama and Georgia. Because of the mild nature of La Niña winters, the risk of damaging freezes is reduced.



Current Conditions - As stated above, the climate impacts from the developing La Niña have been inconsistent so far this Winter. December brought cooler than normal temperatures to the eastern U.S. and regular rainfall in Florida and the Southeast, a very atypical climate given a La Niña. January, on the other hand, saw warm temperatures over the east and midsection of the U.S. with record warmth in the midwest. January also brough a drying trend in the Southeast and desert Southwest, consistent with known La Niña climate patterns. This pattern has broken down in the first two weeks of February with a series of storms and cold fronts sweeping through the Southeast, but the last 30-40 days have seen the return of more typical La Niña climate patterns. For more information on recent weather conditions in the Southeast, see the following links:



Rainfall over the last 30 days expressed as percent of normal.



Typical Jan.-Mar. rainfall during La Niña.

Florida Automated Weather Network
Georgia Automated Environmental Monitoring Network
Alabama Office of the State Climatologist
Southeast Regional Climate Center

Wildfire Outlook - Because of the prolonged warm and dry conditions that La Niña brings to the Southeast in the Winter and Spring months, it usually sets the stage for a very active wildfire season. On average, twice the normal acreage is burned in Florida alone during La Niña wildfire seasons. While the recent heavy rains in the first week of February has eased the wildfire danger for the time being, we expect the threat to ramp up in the Spring if the usual La Niña climate patterns establish themselves. Please reference our wildfire risk forecast, based on the Keetch-

Process of Developing Climate Outlooks

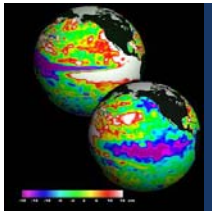
Determine ENSO Phase

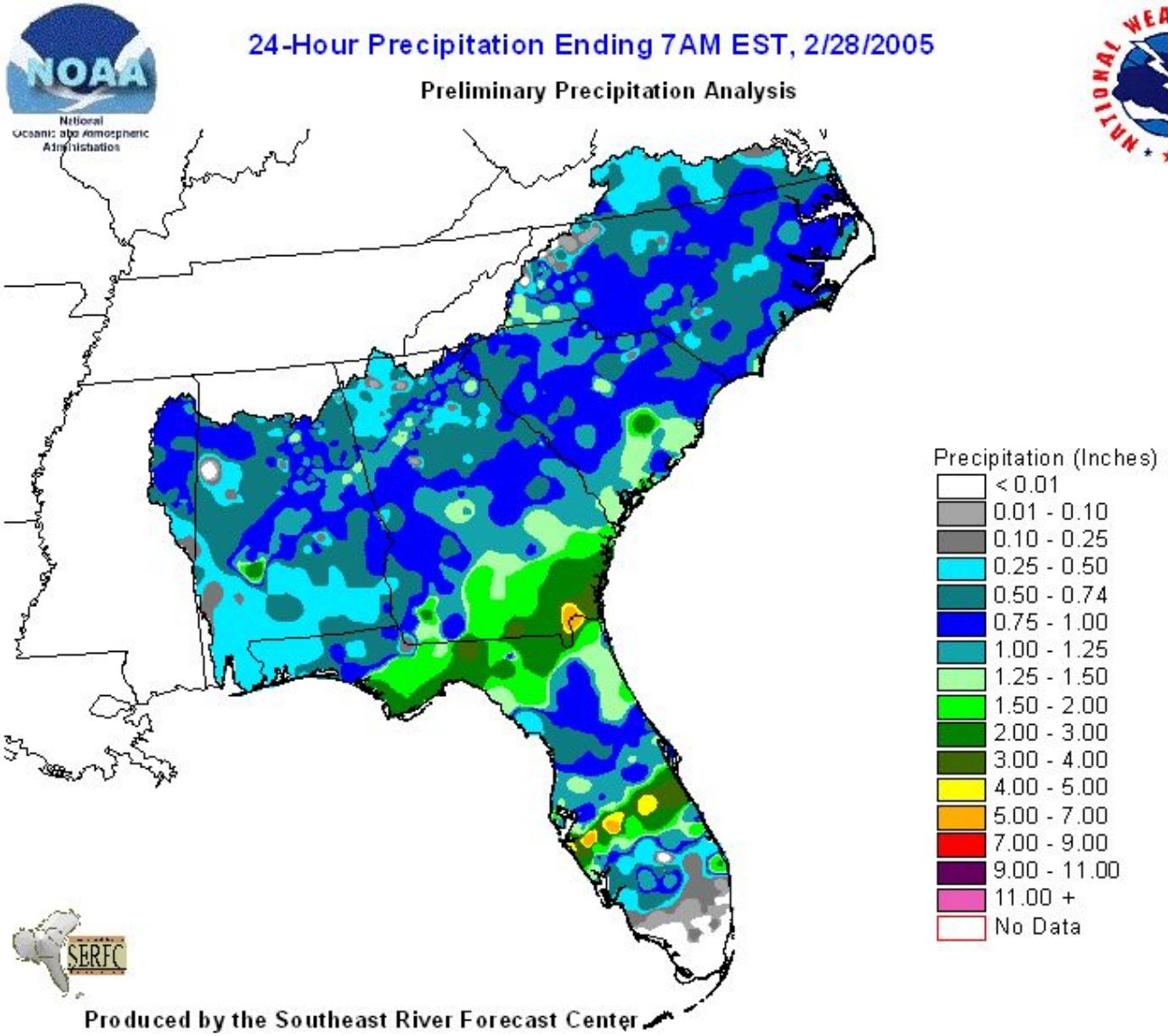
Consult with Climatologists

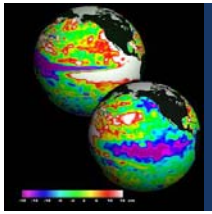
Draft Outlook - Review by Extension Team

Make Revisions - Review by Executive Committee

Post on *AgClimate,* Distribute via Extension Group Email

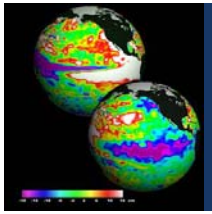



NOAA
National Oceanic and Atmospheric Administration
24-Hour Precipitation Ending 7AM EST, 2/28/2005
Preliminary Precipitation Analysis
NATIONAL WEATHER SERVICE
Precipitation (Inches)
< 0.01
0.01 - 0.10
0.10 - 0.25
0.25 - 0.50
0.50 - 0.74
0.75 - 1.00
1.00 - 1.25
1.25 - 1.50
1.50 - 2.00
2.00 - 3.00
3.00 - 4.00
4.00 - 5.00
5.00 - 7.00
7.00 - 9.00
9.00 - 11.00
11.00 +
No Data
SERFC
Produced by the Southeast River Forecast Center



Success of Climate Outlooks

- Media ready
- All or parts can be pasted into extension newsletters
- *AgClimate* hit rates spike on release of the outlooks
- Provide natural link for our partners at FAWN and GAEMN
- Great feedback from growers, agents, and extension specialists



Crop-specific Outlooks

- Released at critical times for the given commodity
- Direct input from extension specialists
- Gives management options, not recommedations

Peanut	Sept. 05, Mar. 06	Ed Jowers, John Beasly, William Birdsong
Citrus	Sept. 05	John Jackson
Winter Pasture	Sept. 05	Doug Mayo

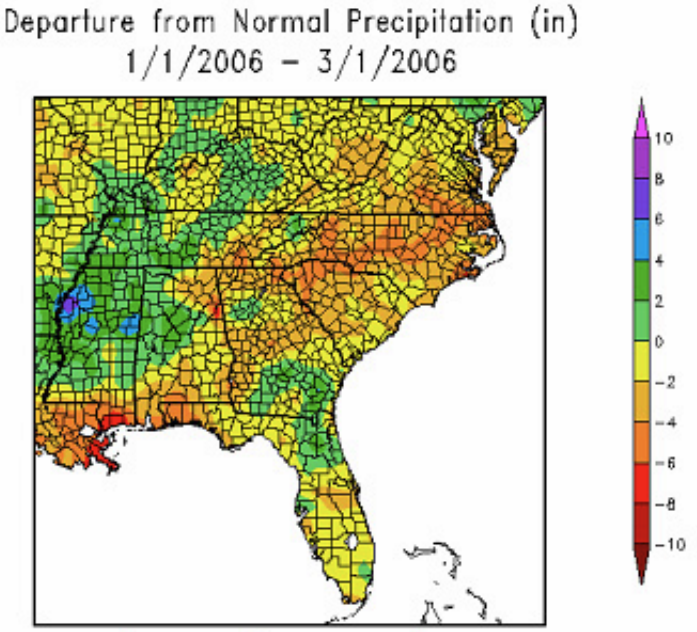
Peanut Outlook

Date Issued: March 10, 2006

Printer Friendly Version

The outlook for Spring 2006 indicate an increased likelihood of warmer and drier-than normal conditions for planting peanuts in Alabama, Florida, and Georgia.

The climate forecast from the Southeast Climate Consortium indicates that the region will be dominated by the effects of the La Niña conditions in the Pacific Ocean in the next 3 to 6 months. La Niña is characterized by unusually cold ocean temperature, as compared to El Niño, which is characterized by unusually warm ocean temperatures. For detailed rainfall and temperature predictions for individual counties, you can use the climate risk tool developed by the SECC at the AgClimate web site (www.agclimate.org).



Departure from normal precipitation for January 1 to March 1, 2006. (Image courtesy of SERCC).

Peanut Planting Date

The increased likelihood of warmer- and drier-than normal spring may encourage growers to plant early. However, growers must consider other factors such as risk of tomato spotted wilt virus (TSWV) and soil temperature in any planting date decision. Studies show a dramatic increase in tomato spotted wilt virus (TSWV) for peanuts planted in early to mid April. There is also a risk of increased TSWV on peanuts in mid-to late-April. If you decide to plant earlier, consider planting varieties with good resistance to TSWV such as AP-3, C-99R, or Georgia 02C. For more information check the University of Georgia Peanut Disease Risk Index or the University of Florida EDIS publication SS-AGR-13 at http://edis.ifas.ufl.edu/AG247

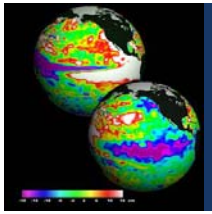
Warm spring and counties in lower latitude may allow for earlier plantings if soil temperatures and moisture conditions are conducive to uniform germination and emergence of seed. It is recommended to plant after the 4-inch soil temperature has reached 65 oF for three consecutive days or longer. The Florida Automated Weather Network and Georgia Automated Environmental Monitoring Network monitor soil temperature data at several locations in Florida and Georgia, respectively.

Conservation Tillage

Growers practicing conservation tillage peanut production with cover crops and strip till may consider killing cover crops earlier this year to avoid further depletion of soil moisture. More information about conservation tillage can be found in the University of Florida EDIS publication SS-AGR-185 at http://edis.ifas.ufl.edu/AG187

Success of Crop-Specific Outlooks

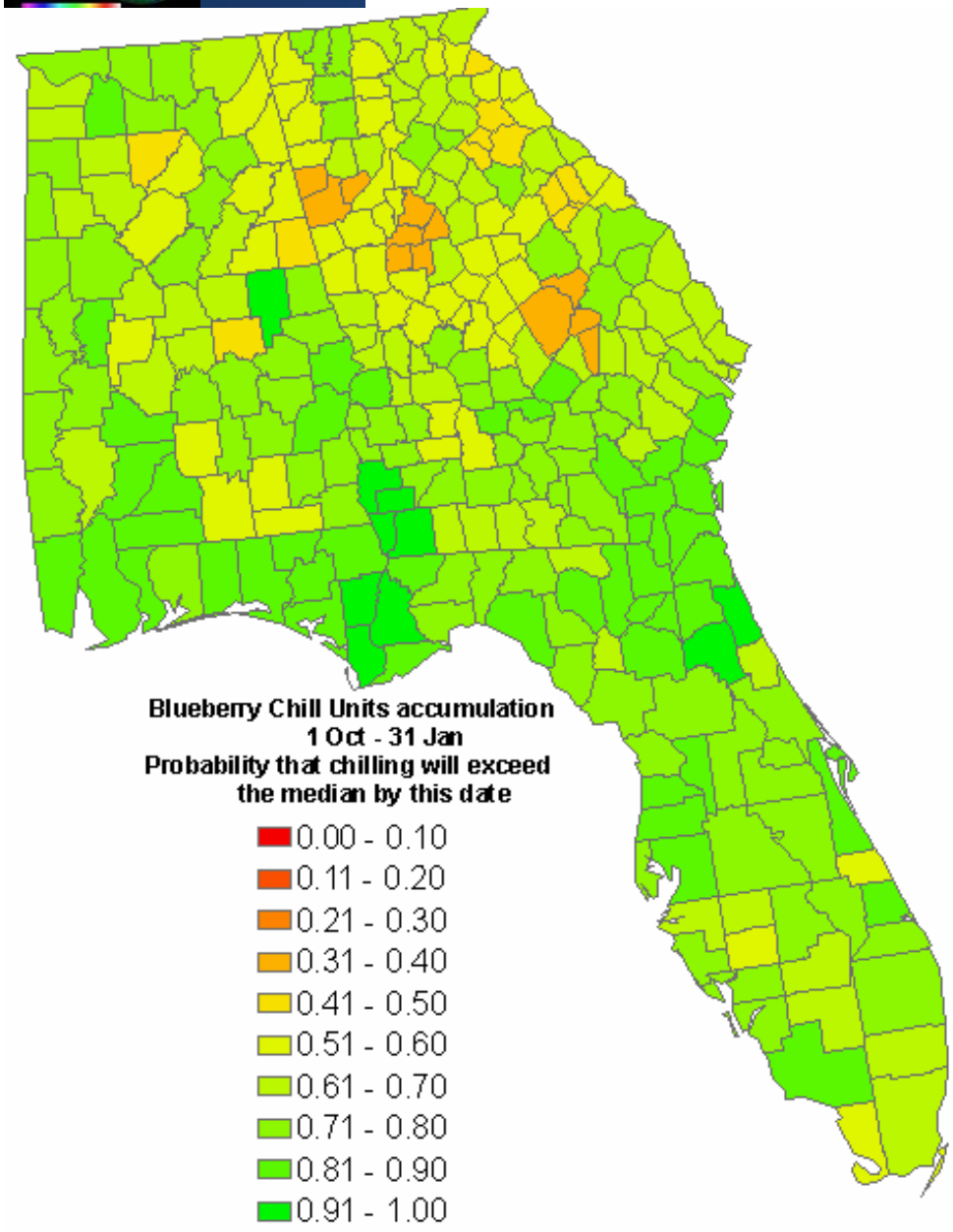
- Participation by extension specialists fosters ownership
- Widely included in county or area newletters
- Continued engagement keep climate issues in the forefront

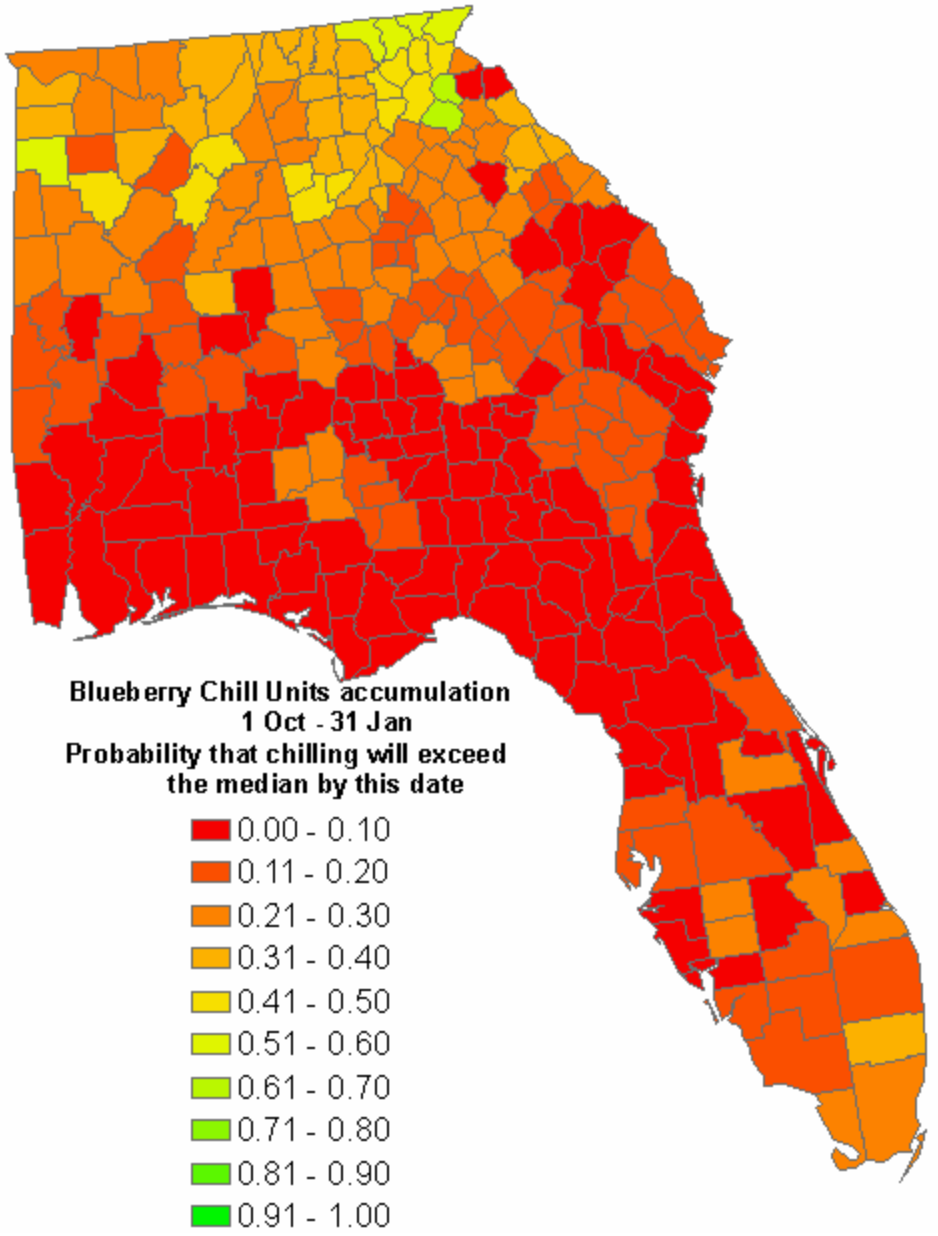


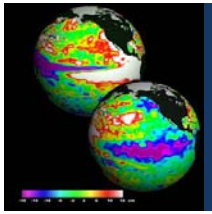
Moral of the Story

- Summaries or interpretations versus detailed information
- Involvement of customers critical
- Information grows stale quickly, moving to monthly climate outlooks

Probabilistic forecasting of county medians







SOUTHEAST CLIMATE CONSORTIUM

AgClimate

Map for county selection: AL | FL | GA

Home Help Contact

County/State AUTAUGA , AL Go!

Current Climate Phase: Neutral

Crop

Blueberry (bb1)

State

FL

County

ALACHUA
BAKER
BAY
BRADFORD
BREVARD

- (•) Neutral
- ( ) El Nino
- ( ) La Nina
- ( ) All Years

Avg and Deviation | Freq. Probab. | Probability of Exceed. | Last 5 Years

Last 5 Years.

Years	Oct		Nov		Dec		Jan		Feb		Mar		Apr	
	1-14	15-31	1-14	15-30	1-14	15-31	1-14	15-31	1-14	15-29	1-14	15-31	1-14	15-30
04-05	0.9	17.2	33.2	96.1	134.8	236.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
03-04	0	13.6	19.2	106.3	180.6	214.1	152.7	197.3	122.1	186.5	83.6	81.4	74	48.9
02-03	0	22	62.1	184.7	170.4	215.6	203.9	212.4	200.2	83.6	25.2	39.5	71.3	14
01-02	18.7	77.3	67.7	23.3	9.3	196.7	200	69.9	160.5	136.1	93.3	43.1	25	0
00-01	43.5	42.6	60.9	171.2	113.7	206.5	171.1	154.8	125.6	41.2	88.8	110.7	21.5	69.9

Colors corresponds to the Year ENSO phase.