

Climate Roundup: 2013 Summer Review and 2014 Winter Outlook



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Atmospheric Prediction
Studies

The Florida State University

January 7, 2014



Walking My Fish





Record July Rainfall

Miami Beach – wettest July on record at 18.47”

Fort Lauderdale – wettest July on record at 15.49”

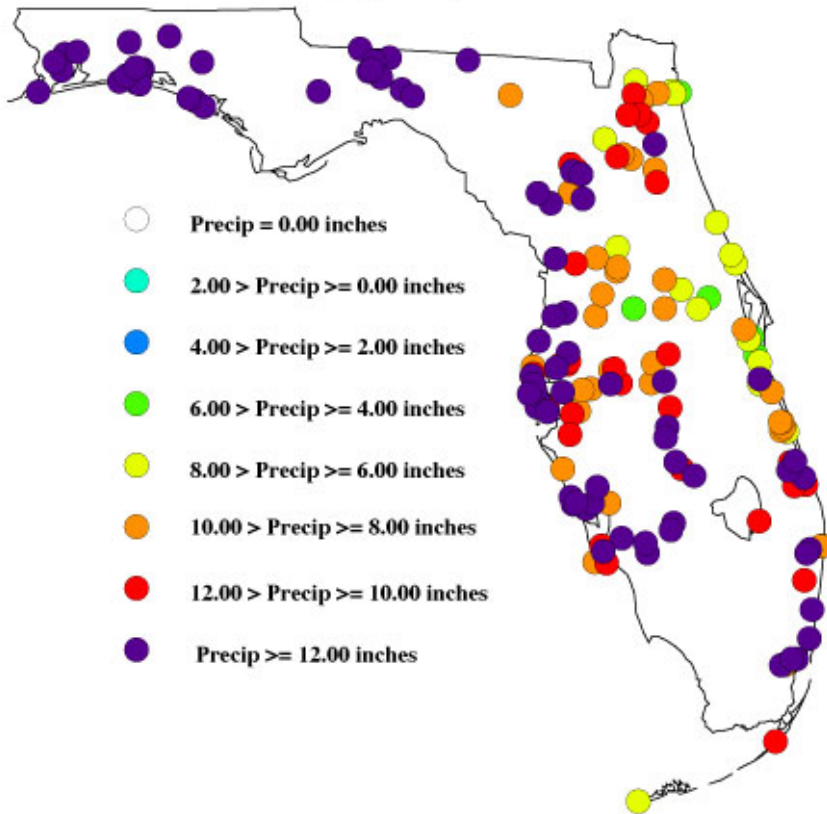
Gainesville – wettest July at 16.65”, second wettest month ever.

Key West – Wettest May-July ever at 25.18”

SFWMD – Wettest April – July at 31.70”

Wettest July Statewide at 12.38”

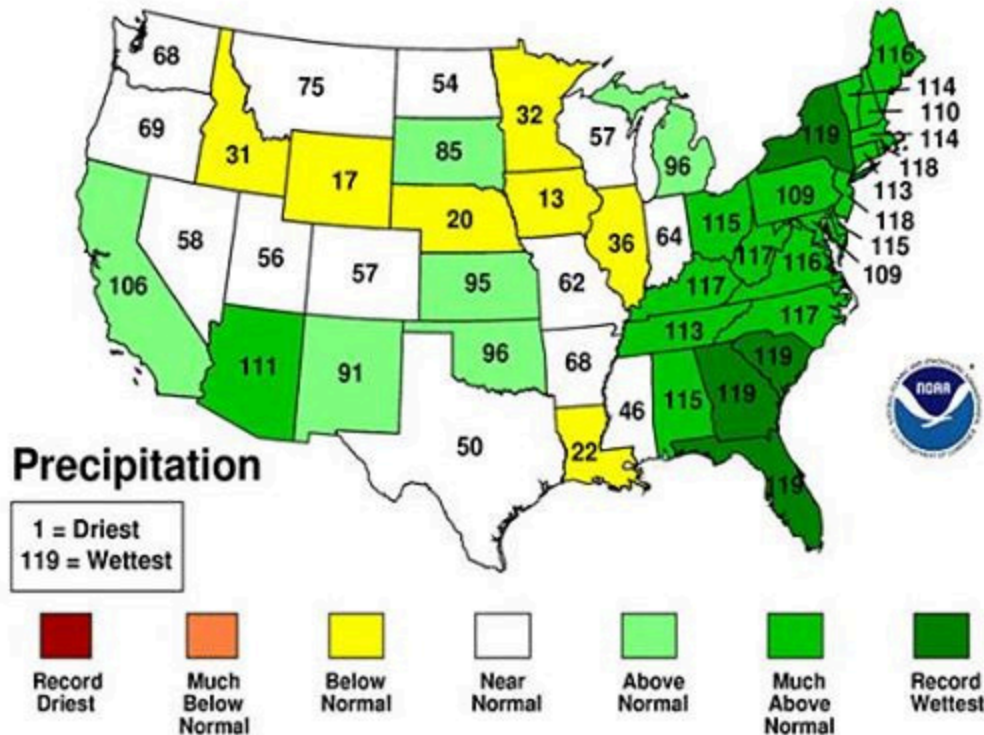
CoCoRaHS Rainfall Totals
(July 2013)



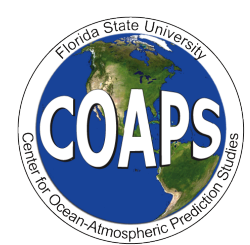
Wettest Summer Ever?

June-August 2013 Statewide Ranks

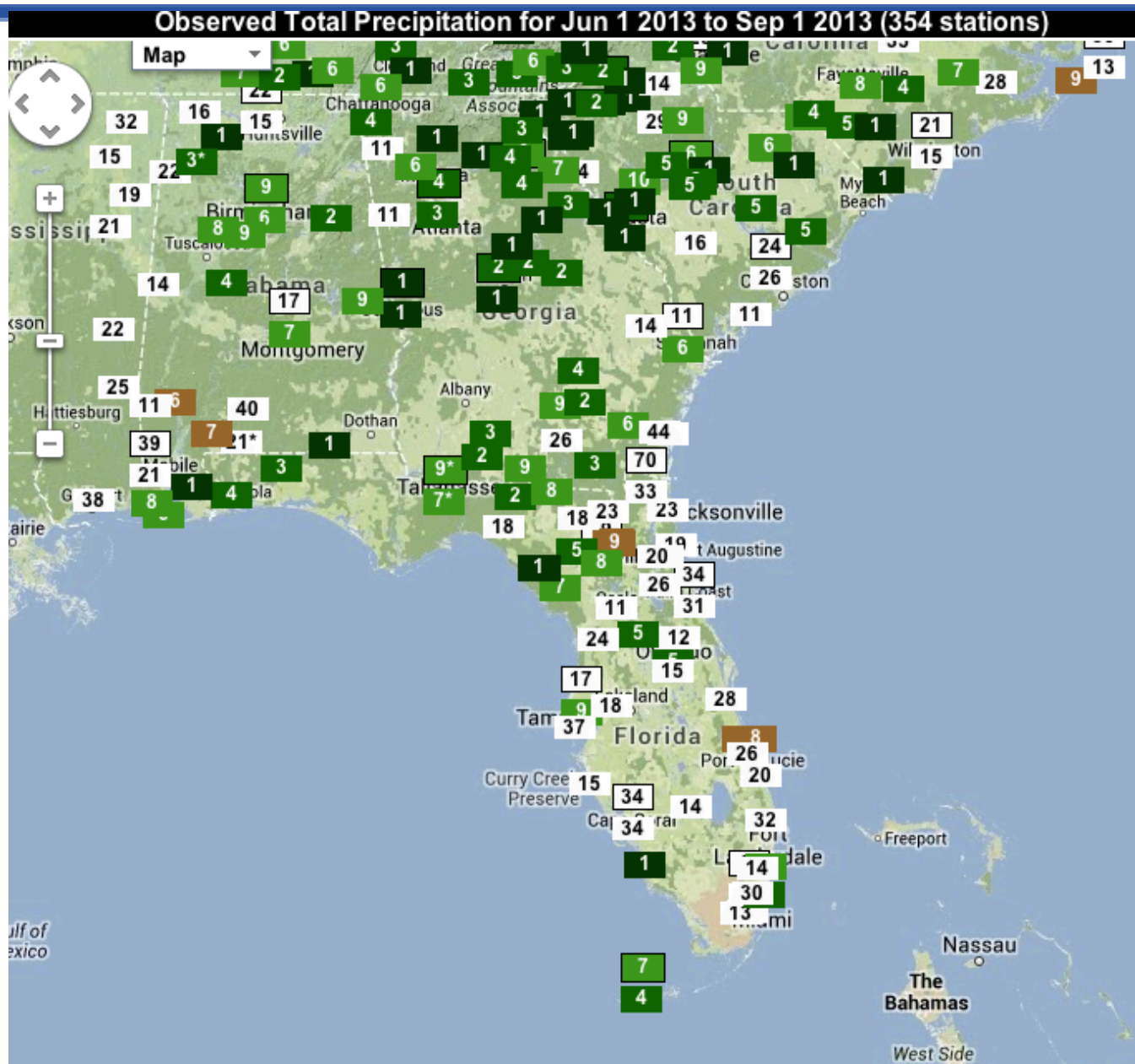
National Climatic Data Center/NESDIS/NOAA



- Wettest July on record for Florida, Georgia and Alabama 4th wettest
- Wettest May-July on record for South Carolina, Florida 2nd wettest and Georgia 3rd
- Wettest Feb-July on record for Georgia and South Carolina
- Wettest June-August for entire Southeast Region

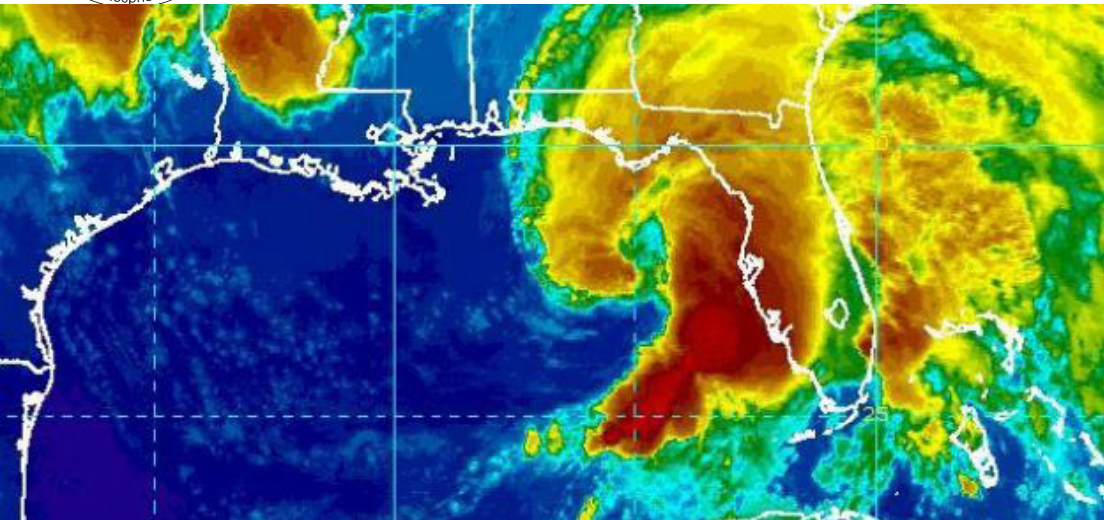


Summer (JJA) Rainfall Rankings



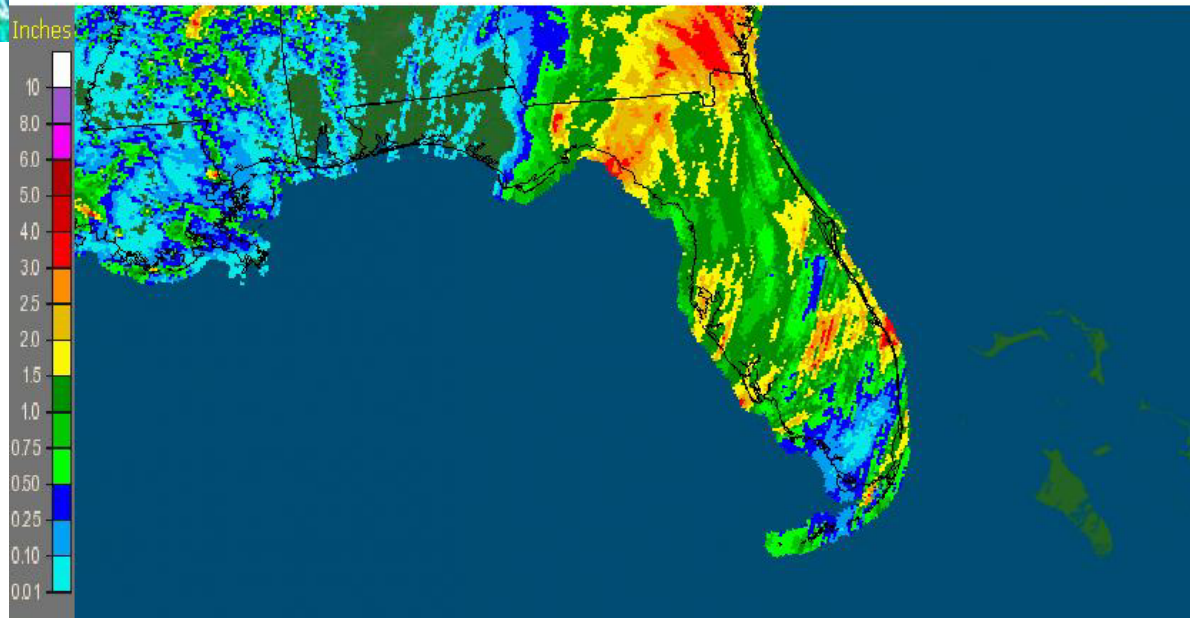


Tropical Storm Andrea



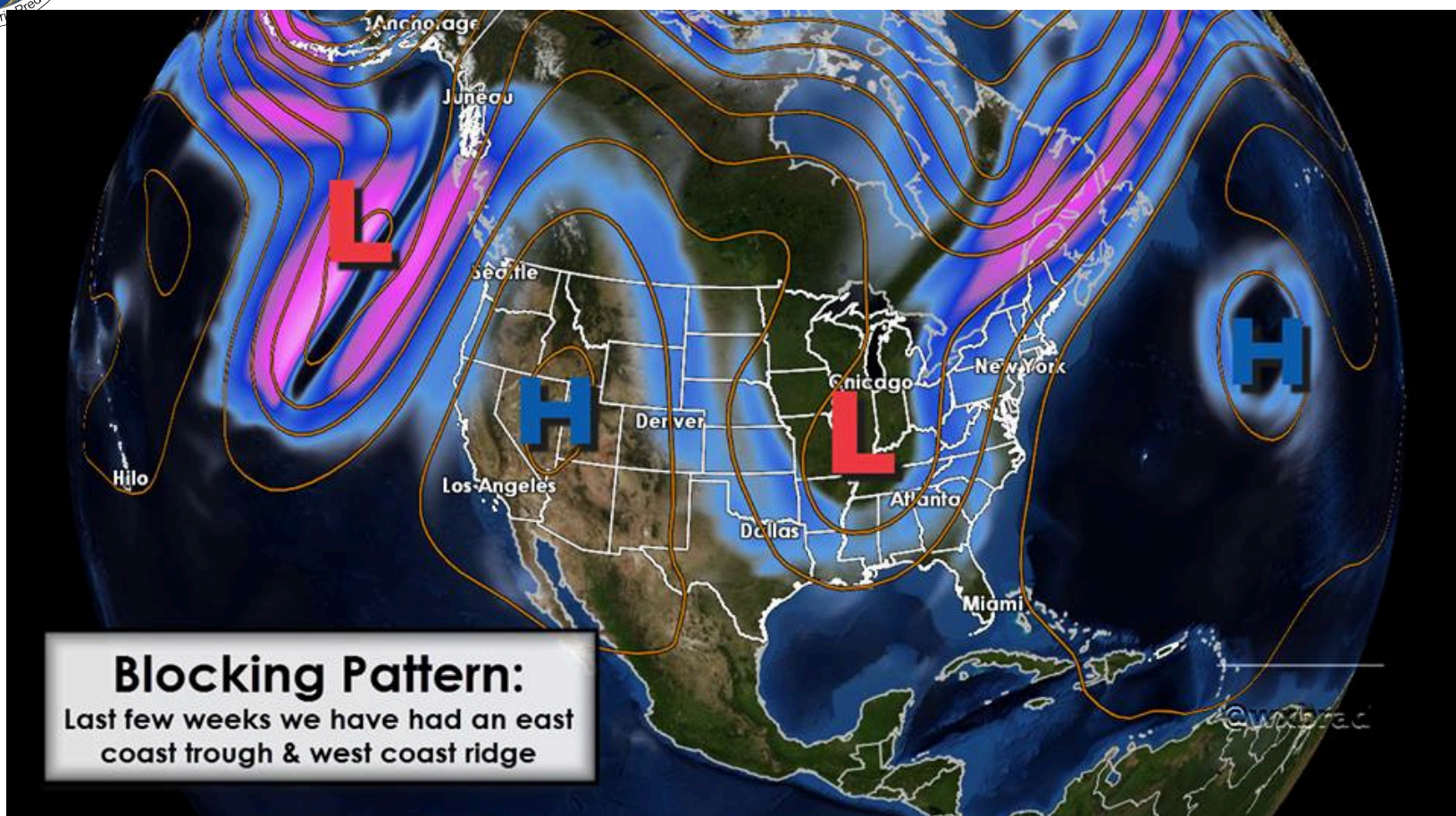
Enhanced IR

Florida: 6/7/2013 1-Day Observed Precipitation
Valid at 6/7/2013 1200 UTC- Created 6/9/13 23:33 UTC



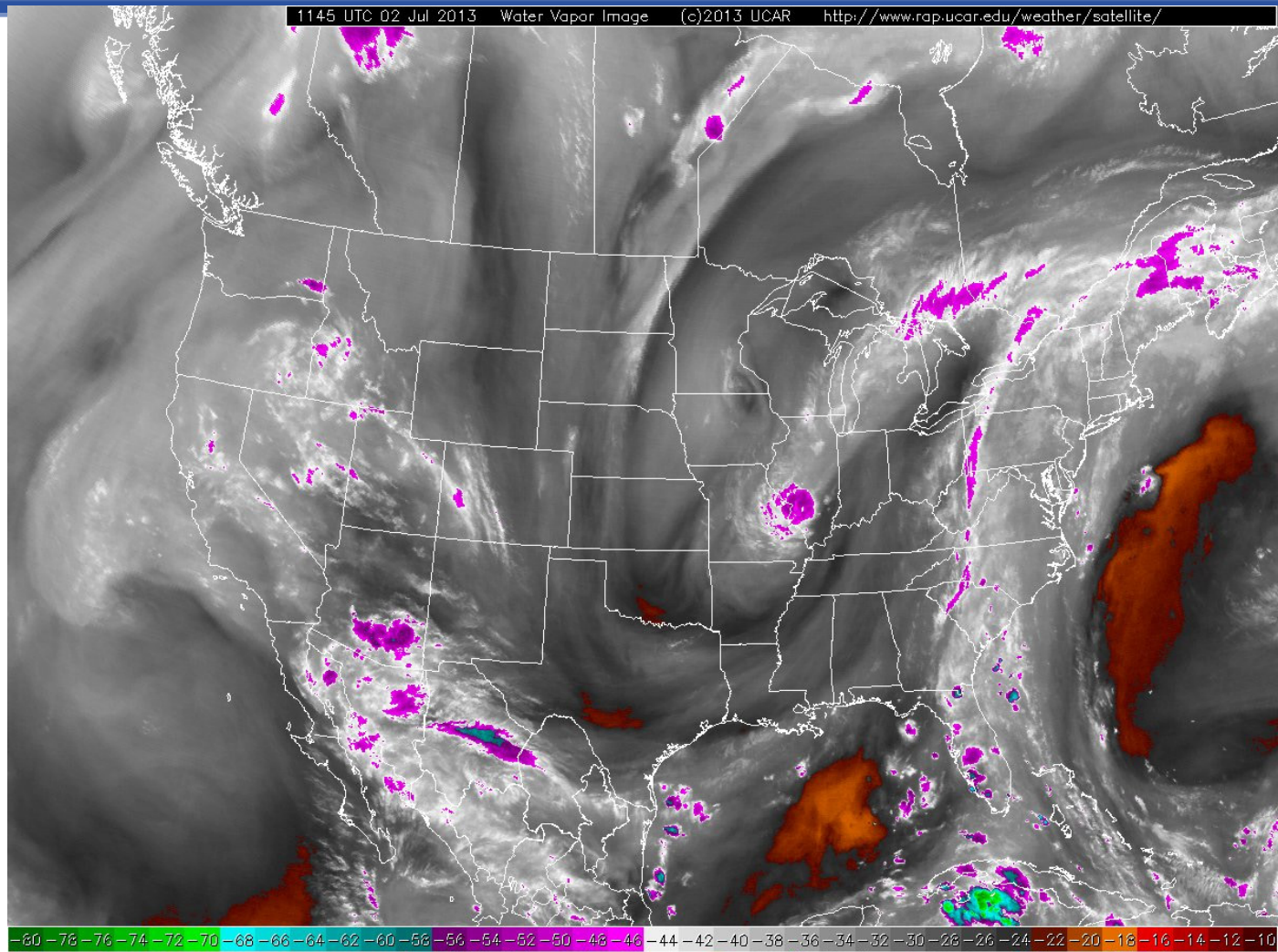
Radar-based MPE estimates

Blocking Pattern



June 6-7, 9-10; June 29-July 7, July 22-29, Aug. 16-20

Moisture Anomalies



Water Vapor Image (7/02)

Poor Quality Melons



New York Times



Lake Okeechobee Releases



Caloosahatchee River





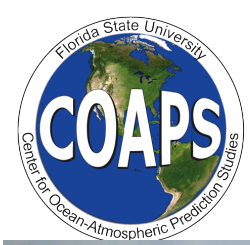
Saturated Peanuts



Photo: Courtesy of William Birdsong, AL



*Courtesy Rome
Etheridge*



Soggy Cotton

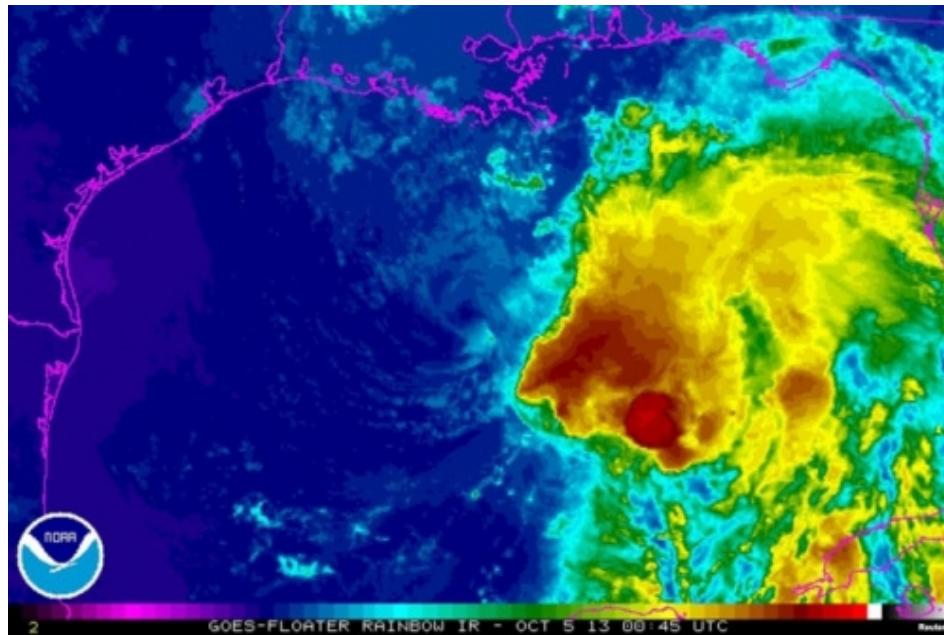


Courtesy Rome Etheridge



Hurricane Drought?

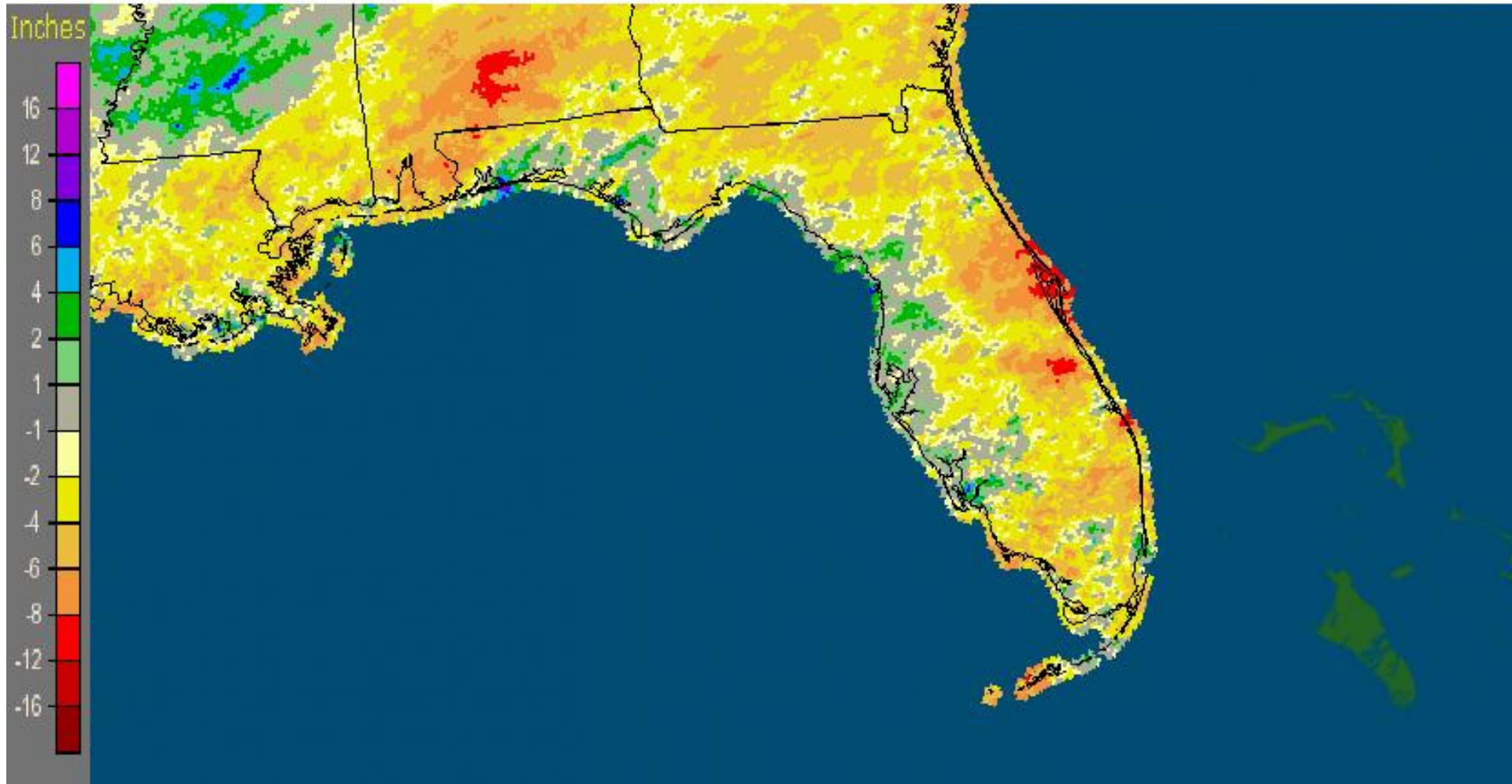
- 8 years since a major hurricane has struck the U.S. (Wilma 2005)
- No U.S. Hurricane strikes in 2013
- 2013 Statistics
 - 12 named storms (13-20 predicted, 12 average)
 - 2 hurricanes (7-11 predicted, 6 average)
 - No major hurricanes(3-4 predicted, 3 average)





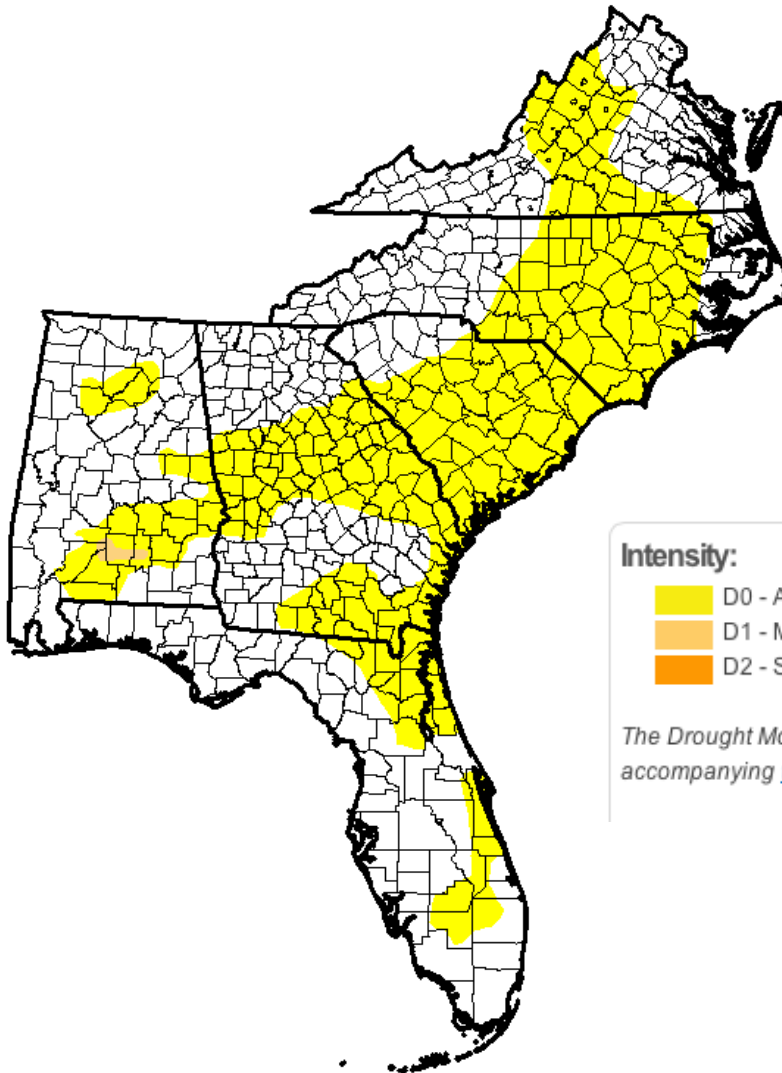
Dry Fall

Florida: Current 90-Day Departure from Normal Precipitation
Valid at 12/9/2013 1200 UTC- Created 12/9/13 16:13 UTC





Current drought status from Drought Monitor

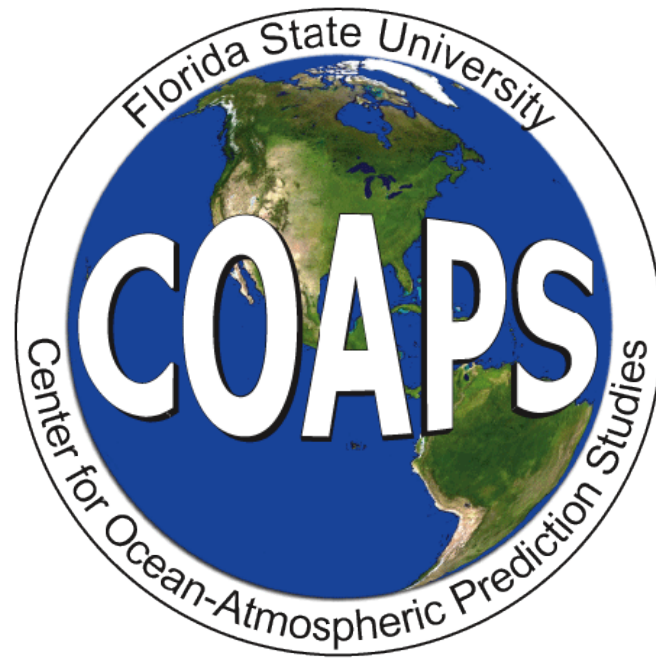


Intensity:

- | | |
|---|--|
|  D0 - Abnormally Dry |  D3 - Extreme Drought |
|  D1 - Moderate Drought |  D4 - Exceptional Drought |
|  D2 - Severe Drought | |

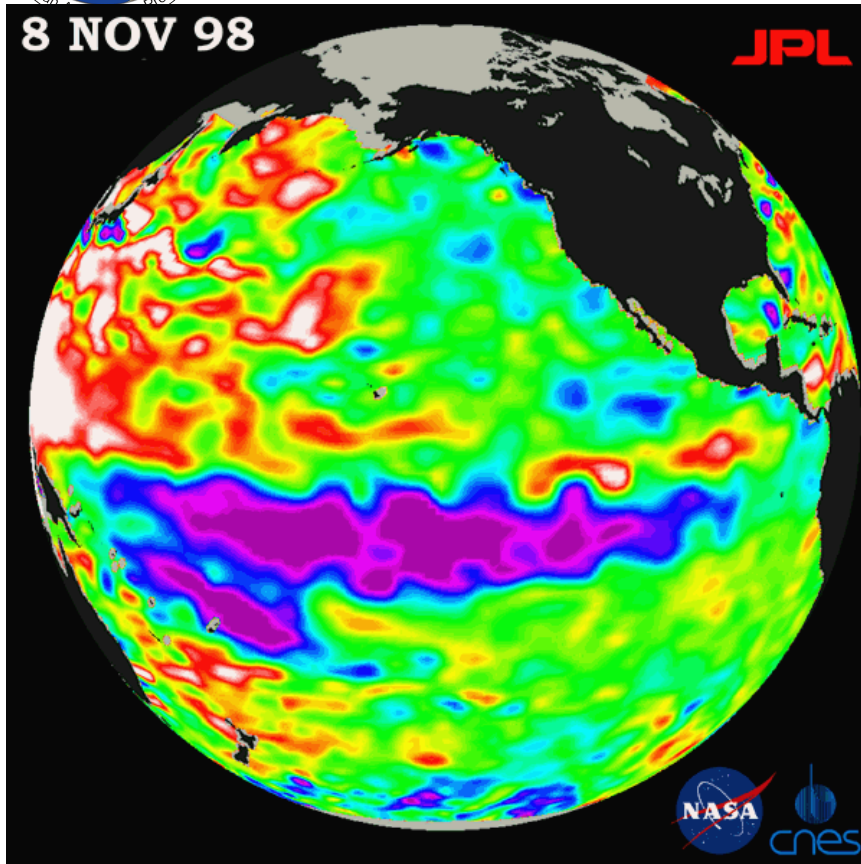
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying [text summary](#) for forecast statements.



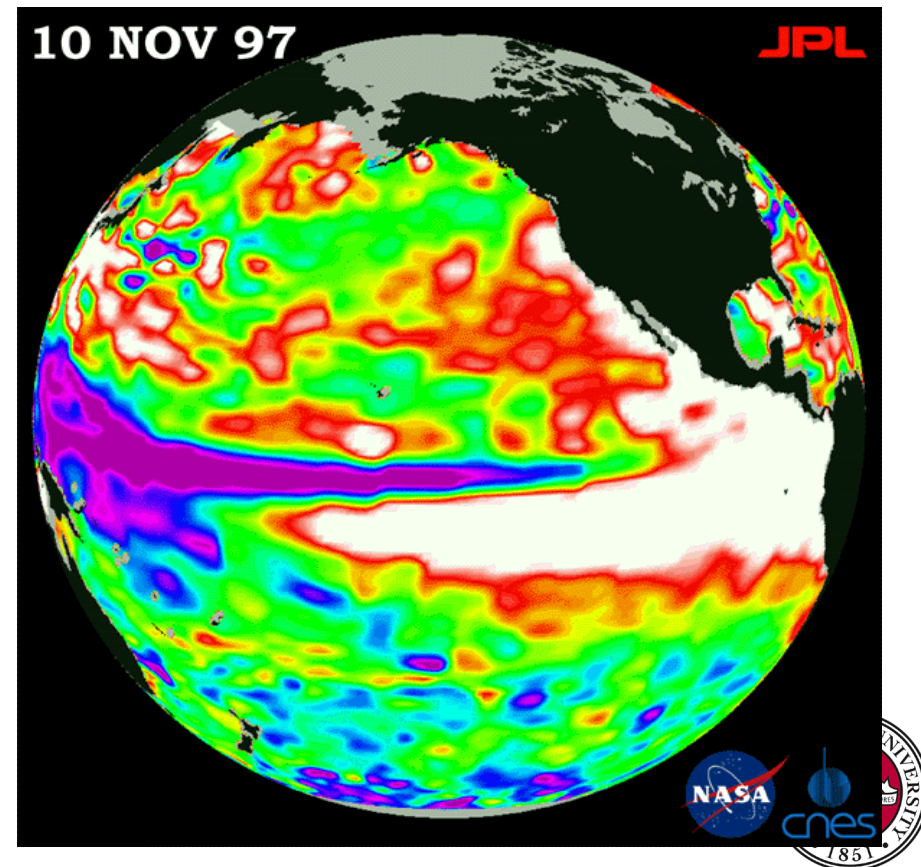


Fall/Winter Outlook

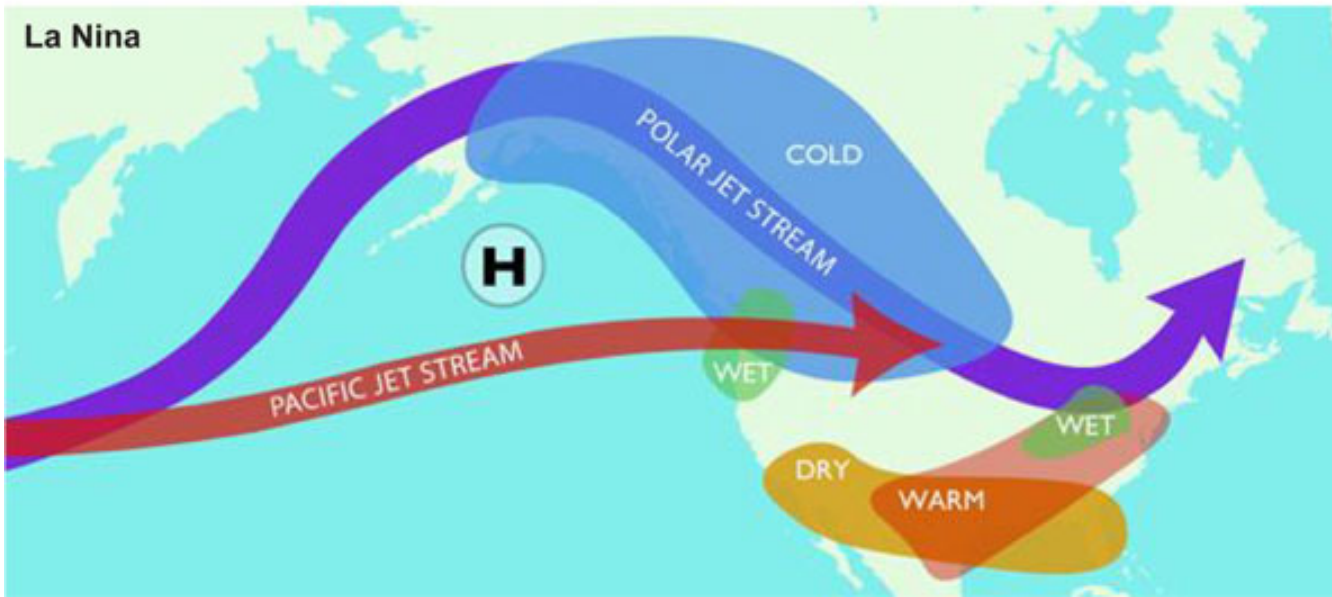
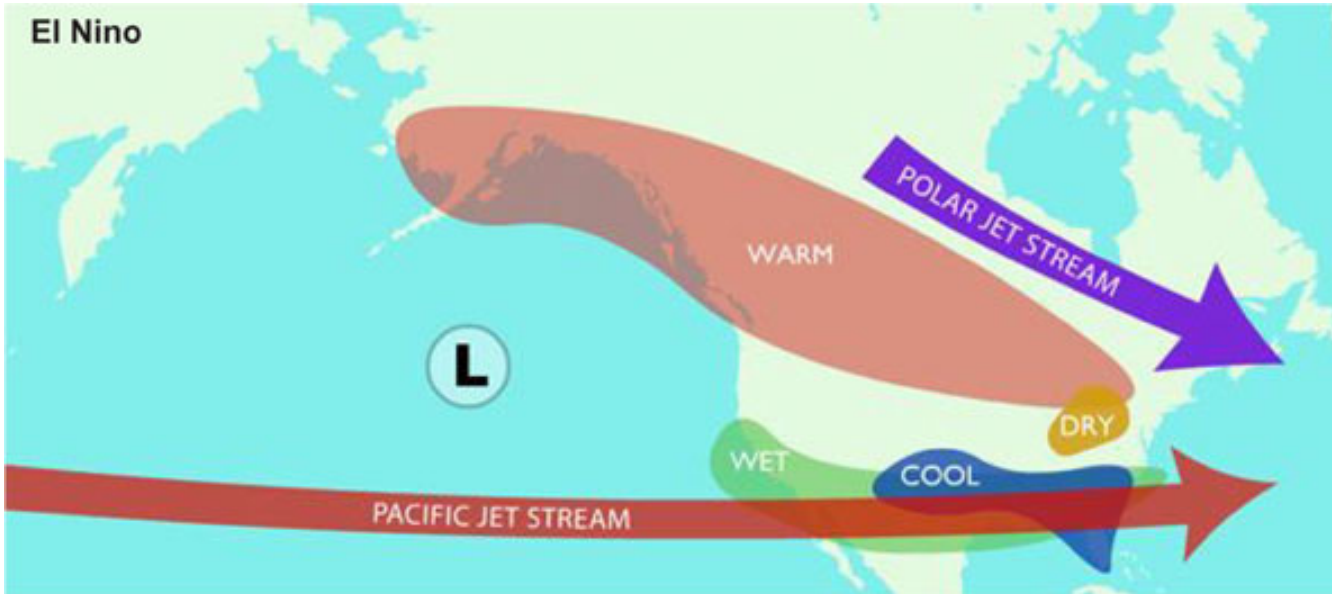
The El Niño /La Niña Cycle

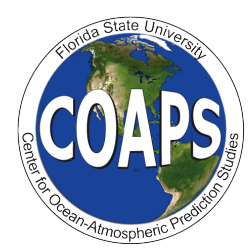


The El Niño /La Niña cycle is the predominant mode of year to year climate variability in the Southeast.



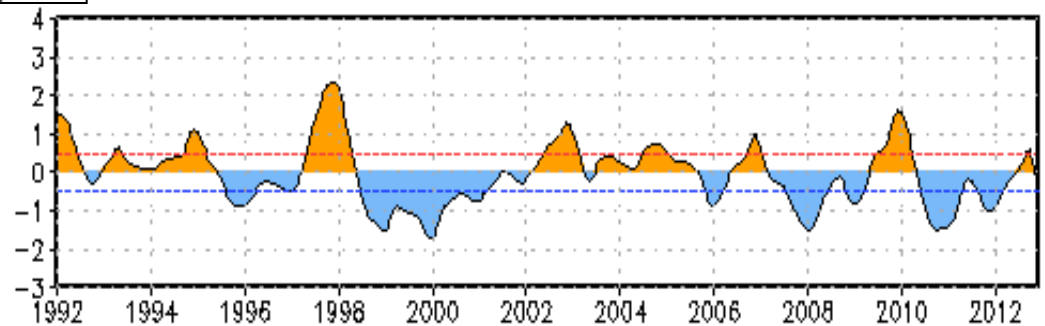
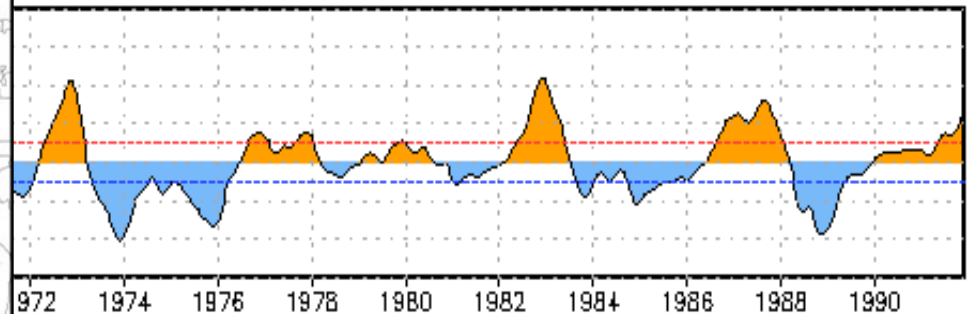
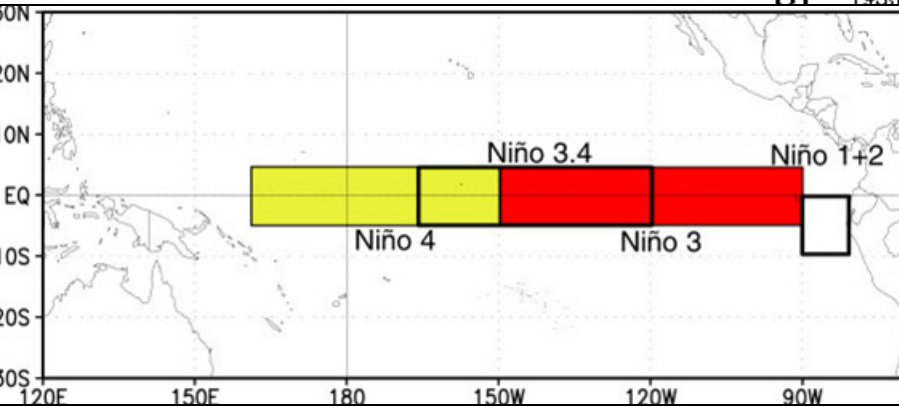
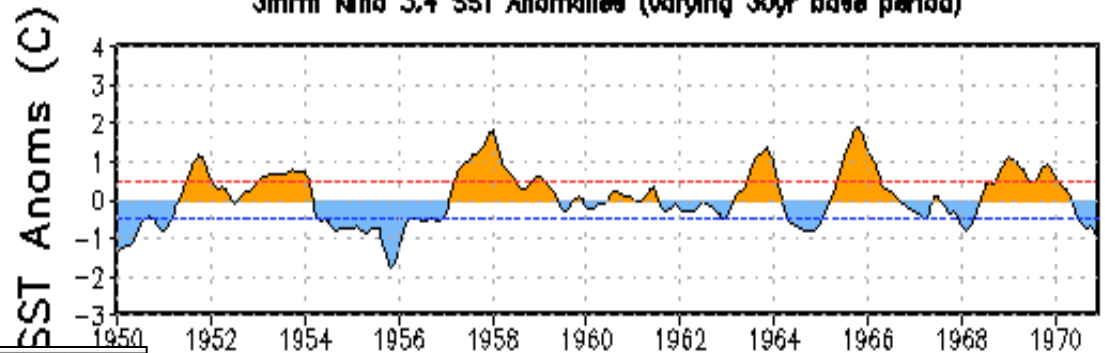
El Nino/La Nina Jet Stream Patterns





Historic El Niño/La Niña Events

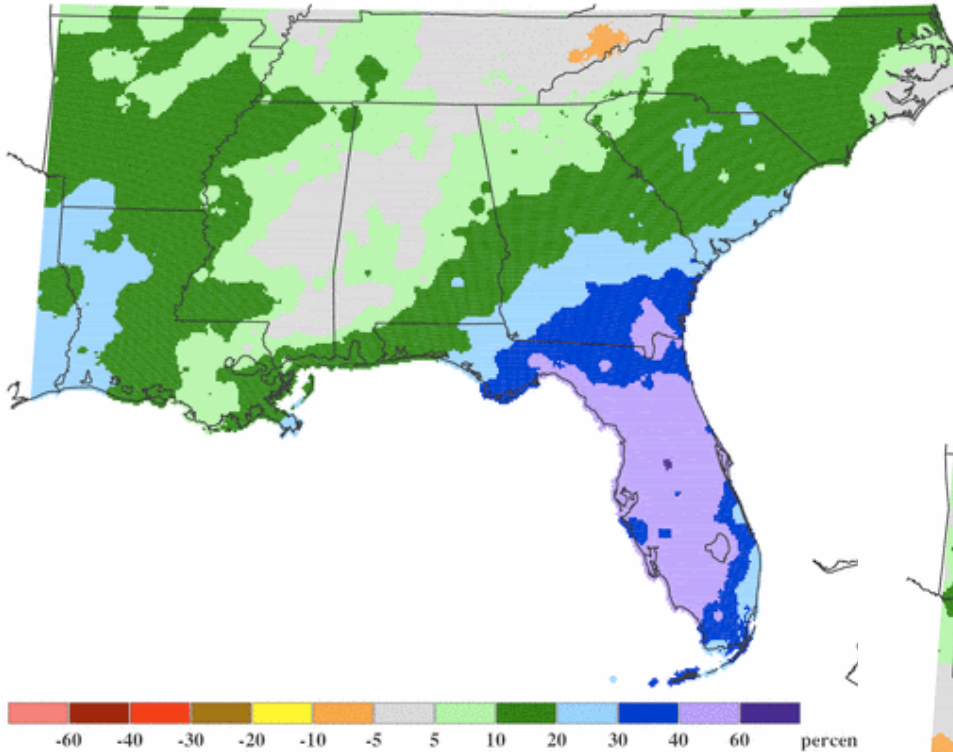
Oceanic Niño Index (ERSST.v3b ONI)
3mm Niño 3.4 SST Anomalies (varying 30yr base period)



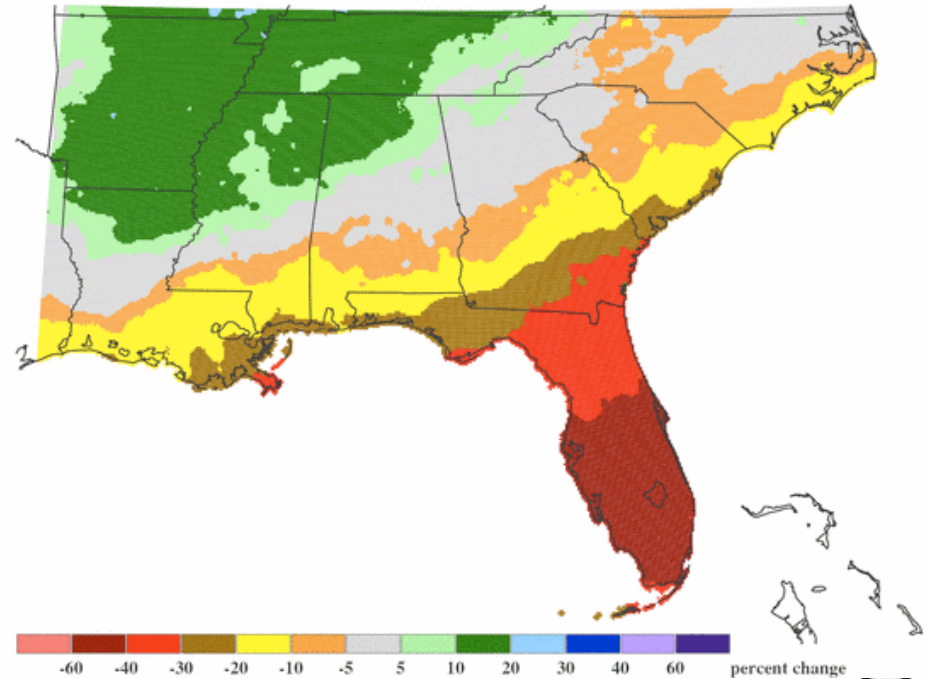


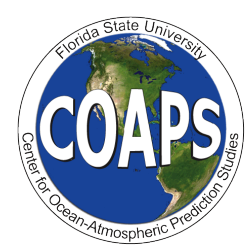
El Niño/La Niña Effects on Precipitation

JANUARY
EL NIÑO vs. NEUTRAL
PRECIPITATION



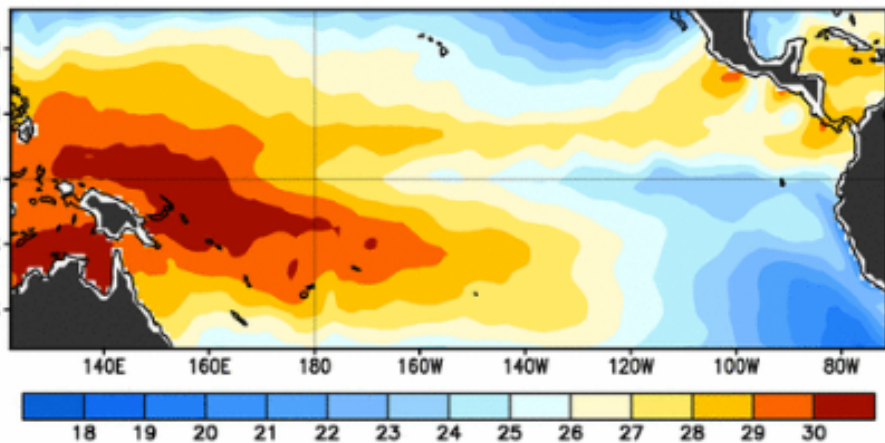
FEBRUARY
LA NINA vs. NEUTRAL
PRECIPITATION



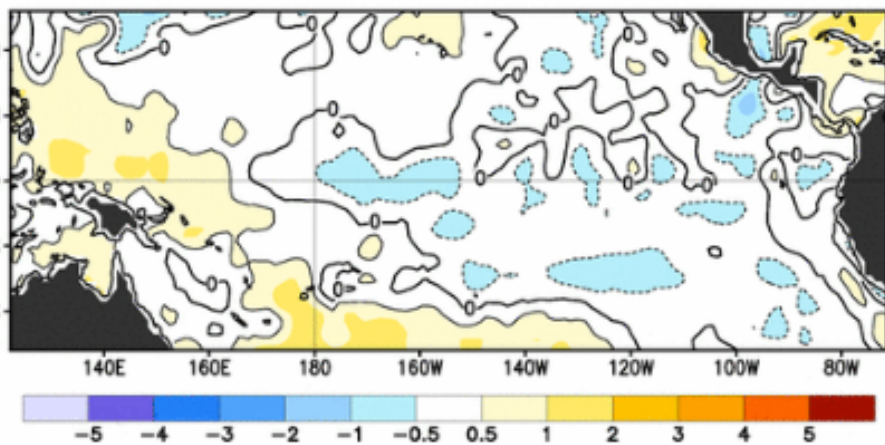


7-day average Pacific Ocean SST Anomalies

Observed Sea Surface Temperature (°C)

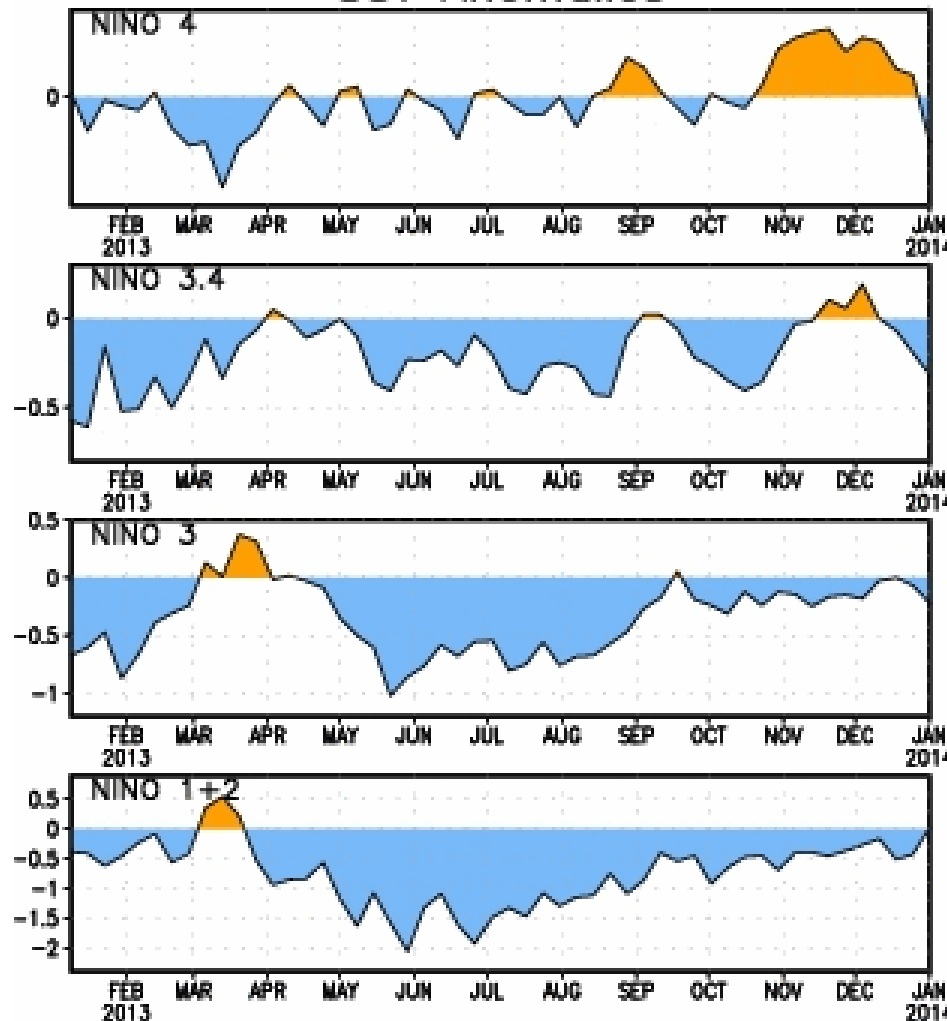


Observed Sea Surface Temperature Anomalies (°C)



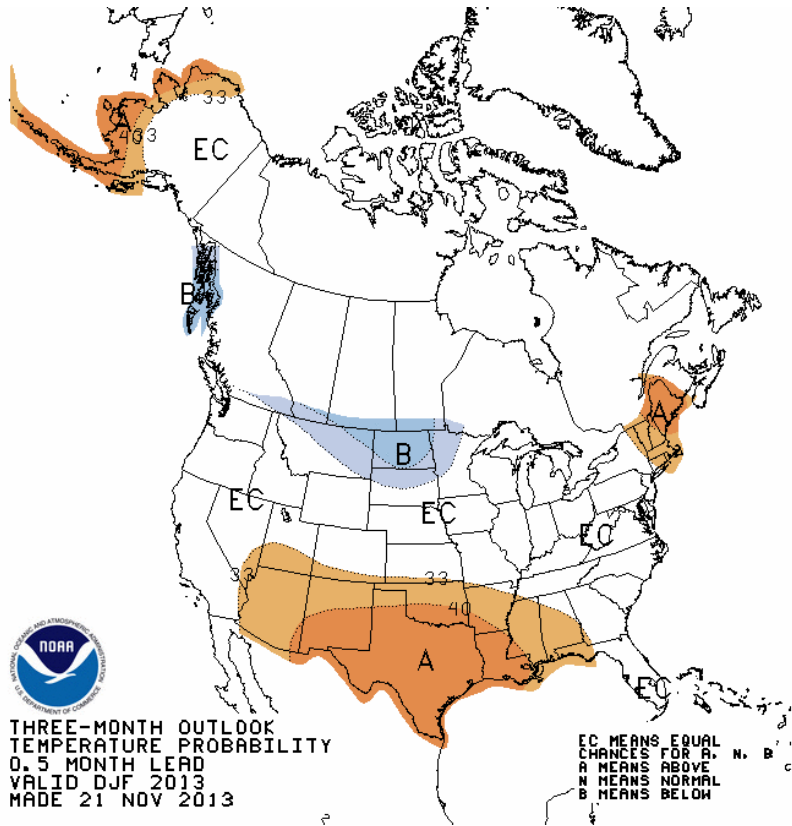
7-day Average Centered on 01 January 2014

SST Anomalies



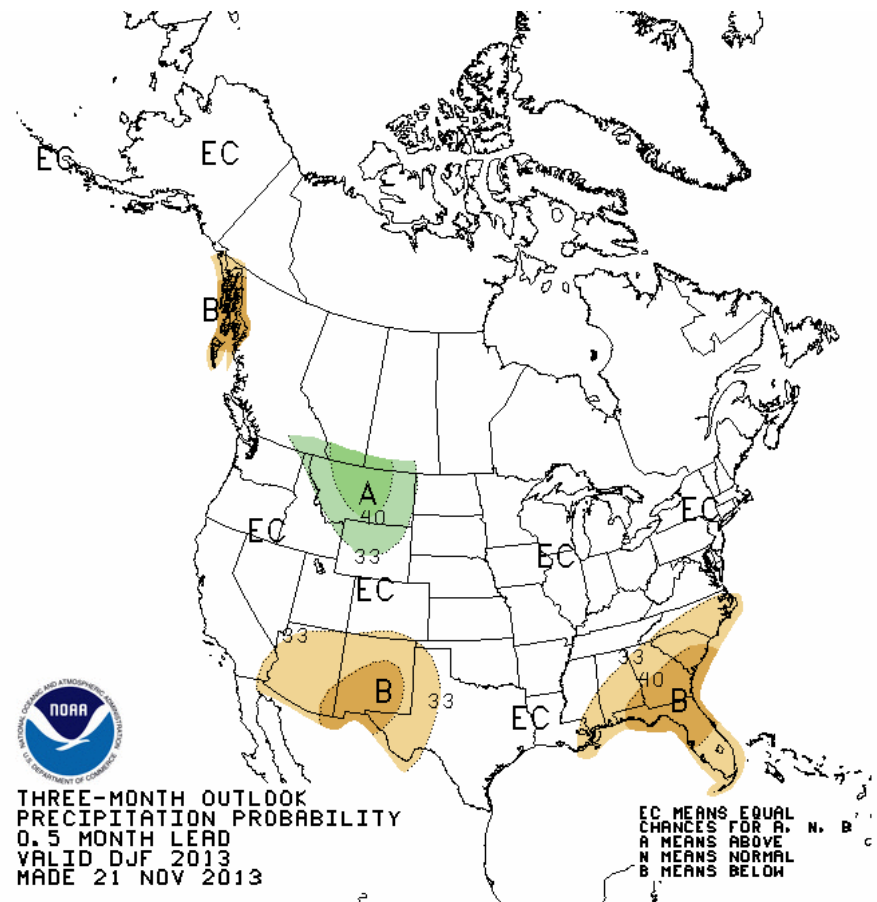


Winter (DJF) Outlook



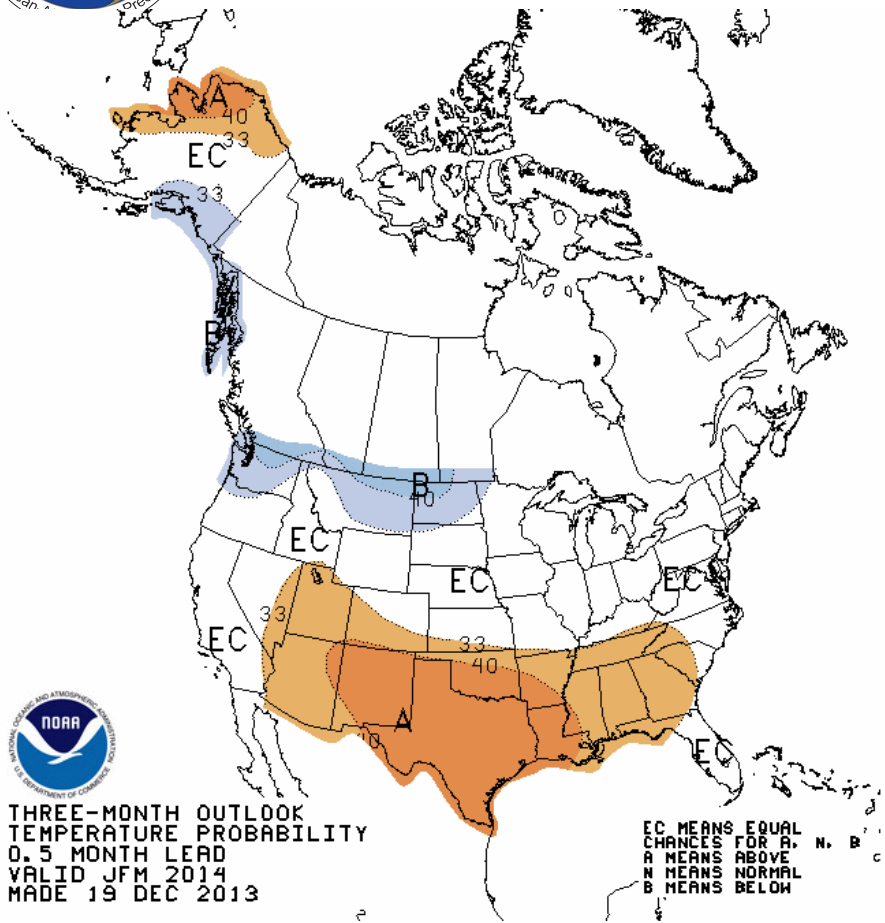
Temperature

Precipitation





Updated Winter (JFM) Outlook



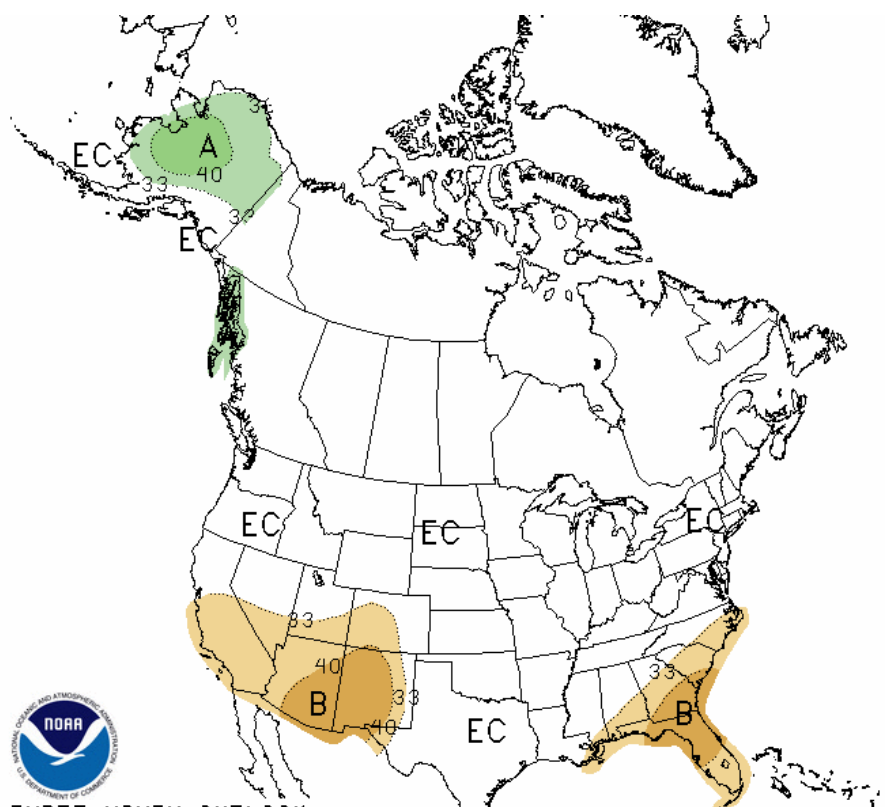
THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID JFM 2014
MADE 19 DEC 2013

EC MEANS EQUAL CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

Temperature



Precipitation



THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID JFM 2014
MADE 19 DEC 2013

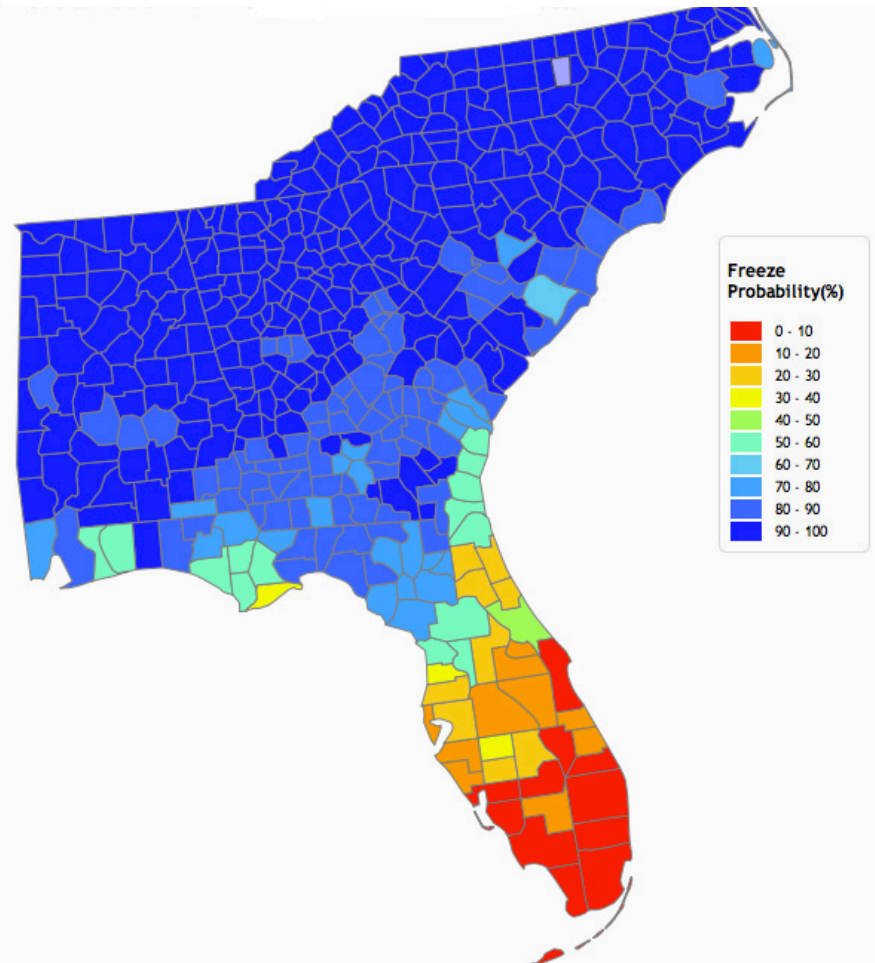
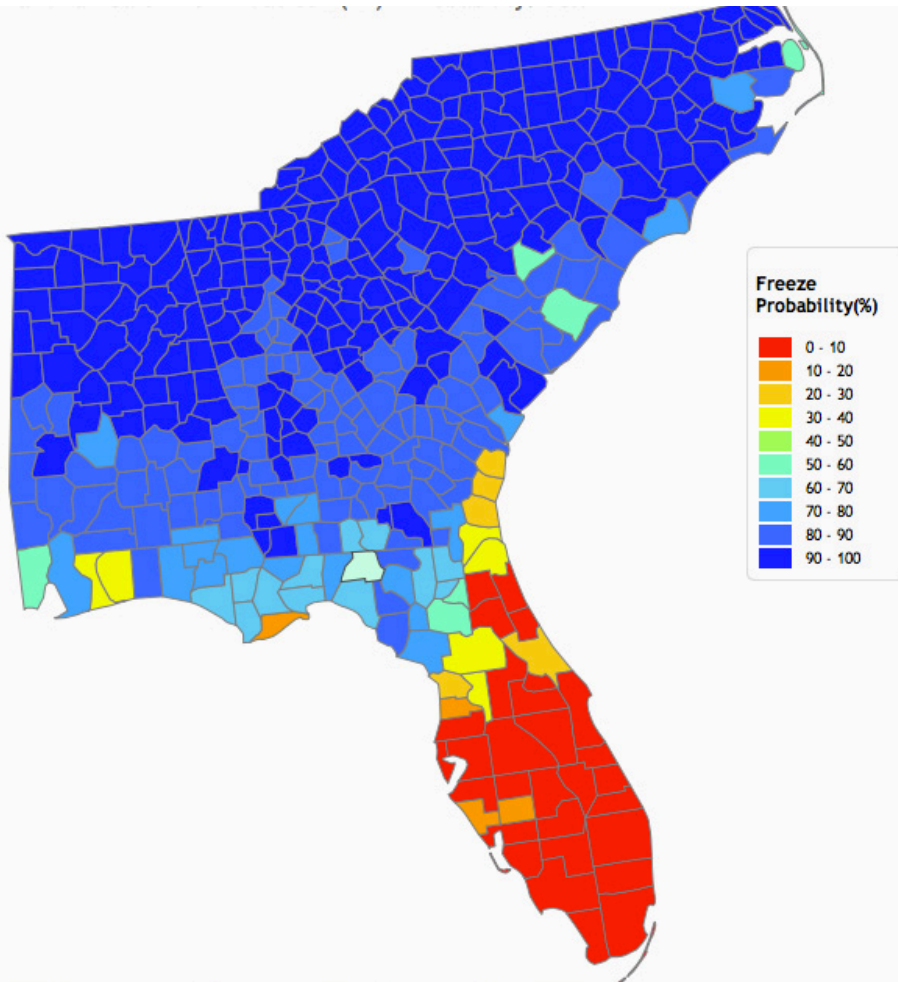
EC MEANS EQUAL CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

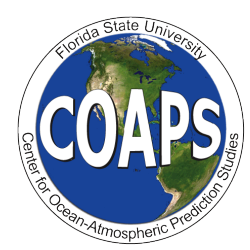


Probability of 25 degrees or less

La Nina

Neutral





Chill Accumulation

Temperature: < 45 °F - Lake County (FL)

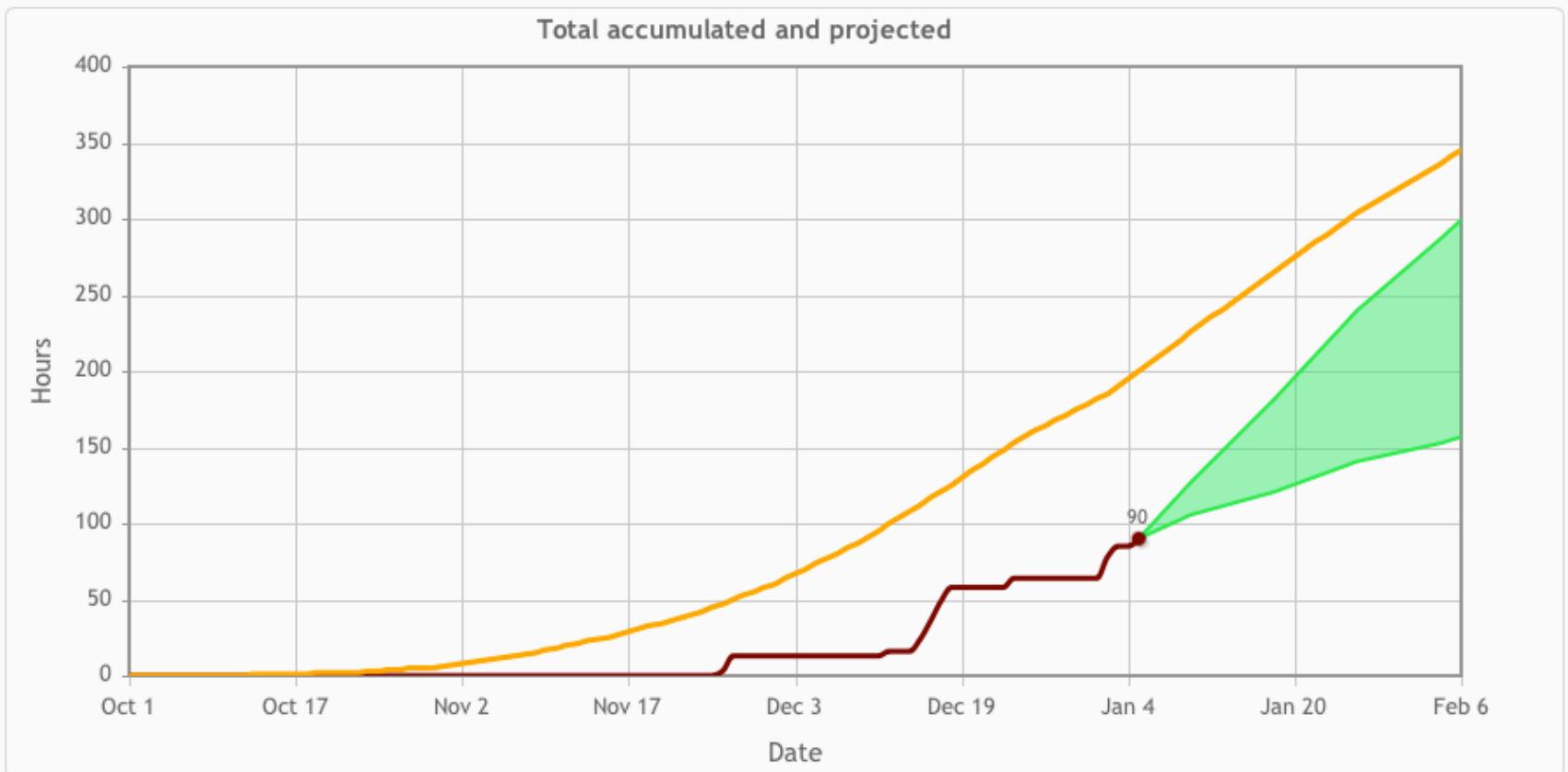
Period [Oct 1, 2013 - Jan 6, 2014]:

This season	90 Hours
Last season	154 Hours
Historic average	200 Hours

[Download csv file](#)

■ Current accumulation
■ Neutral years, long-term climatology

■ Historic Average



Climate and Florida Citrus

Adapted from: John Attaway, “A History of Florida Citrus Freezes”



Mature orange grove outside of St. Augustine, FL in the early 1890' s. Trees have obviously grown for decades without major freeze damage.
- from Buel, 1893

Impact Freezes:

February 7-9, 1835

December 29, 1894

February 8, 1895

February 13-14, 1899

December 12-13, 1934

January 27-19, 1940

December 12-13, 1962

January 18-20, 1977

January 12-14, 1981

December 24-25, 1983

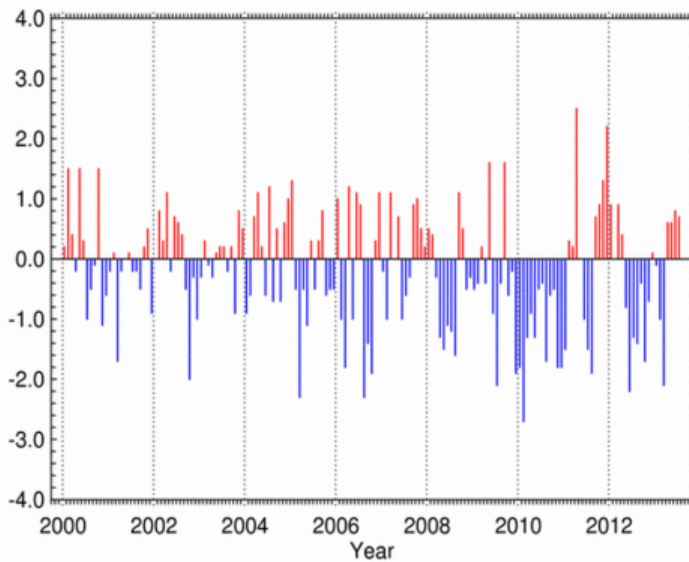
January 20-22, 1985

December 24-25, 1989

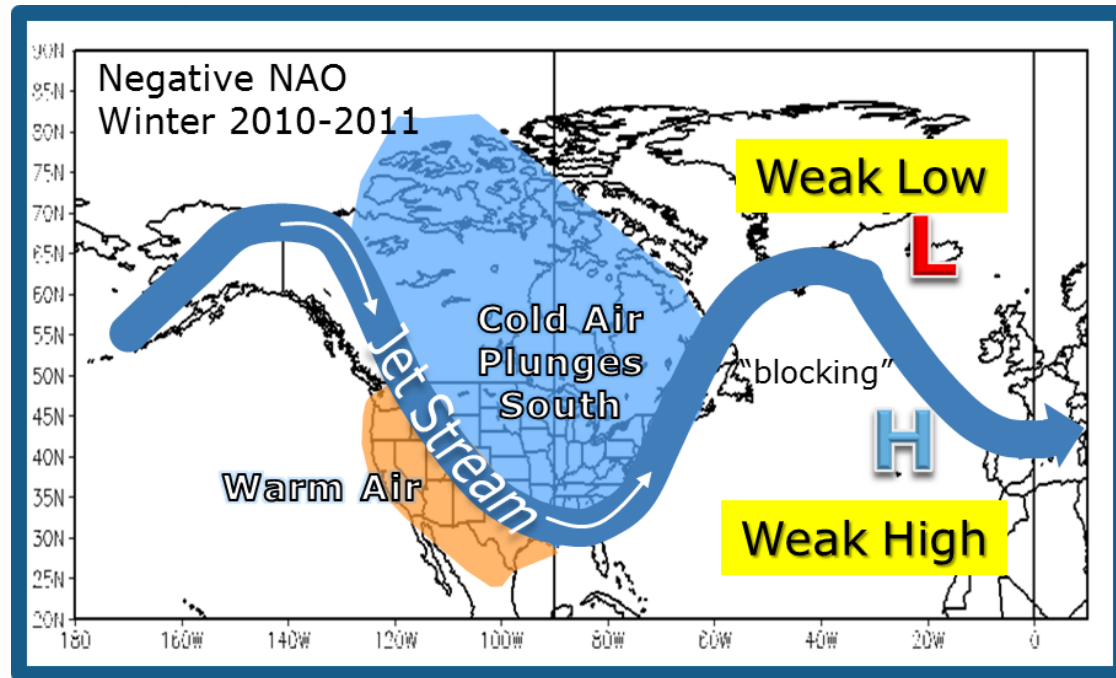
January 19, 1997

North Atlantic Oscillation

North Atlantic Oscillation Index (NAO)



National Climatic Data Center / NESDIS / NOAA

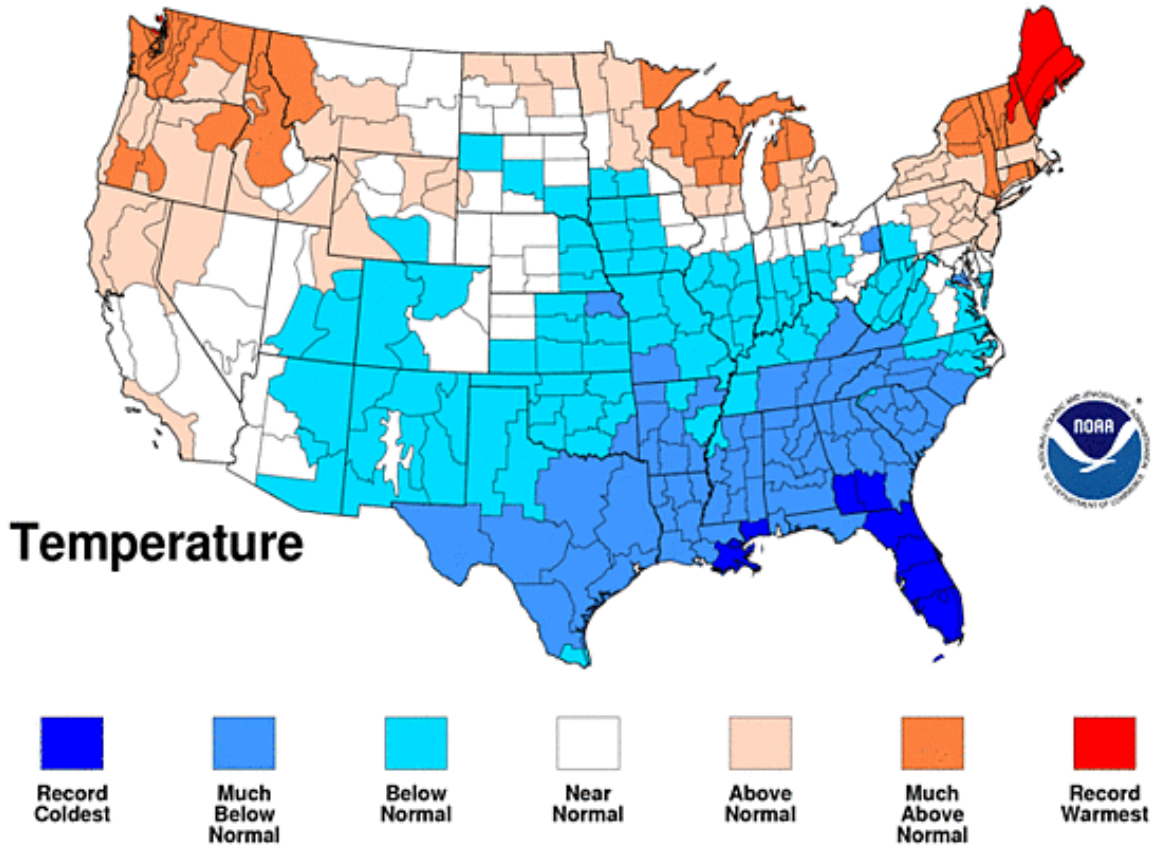




Winter 2010 Temperature Rankings

Jan - Mar 2010

National Climatic Data Center/NESDIS/NOAA





Cold Protection for Strawberries



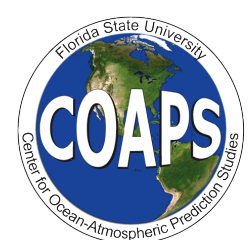
Dover, FL, Jan. 6, 2010

- Estimated 1 billion gal. of water pumped each night
- Water table dropped 60 ft. around the Dover, Plant City area
- Over 200 sinkholes opened



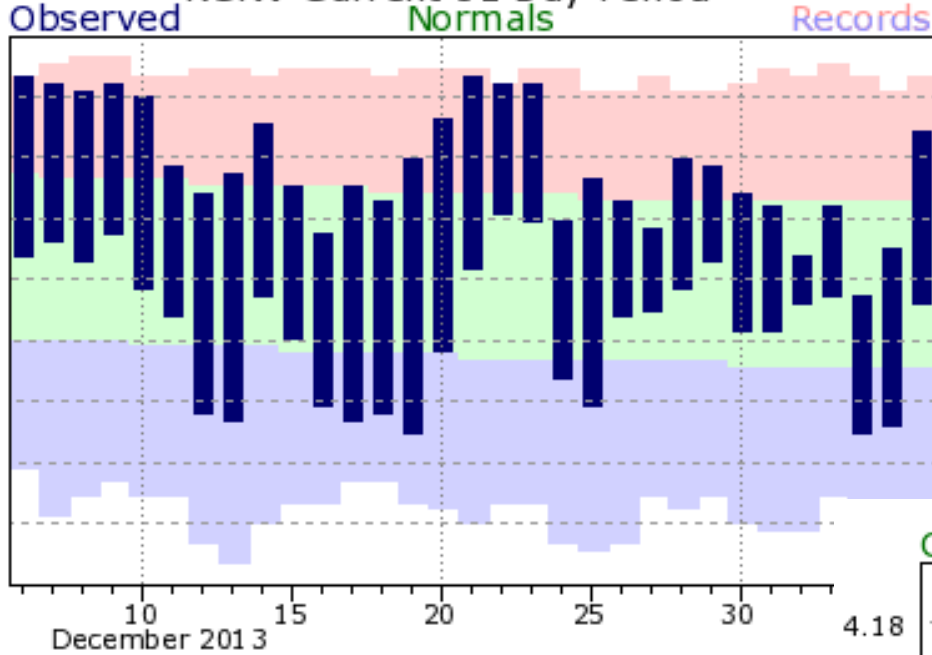


Winter Climate to Date

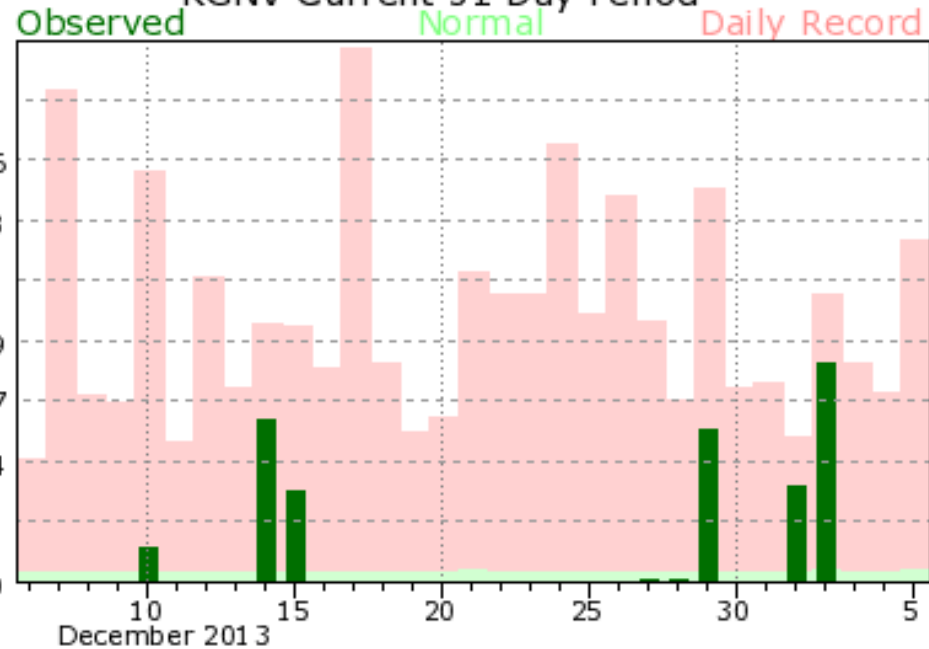


Variable Weather

KGTV Current 31 Day Period



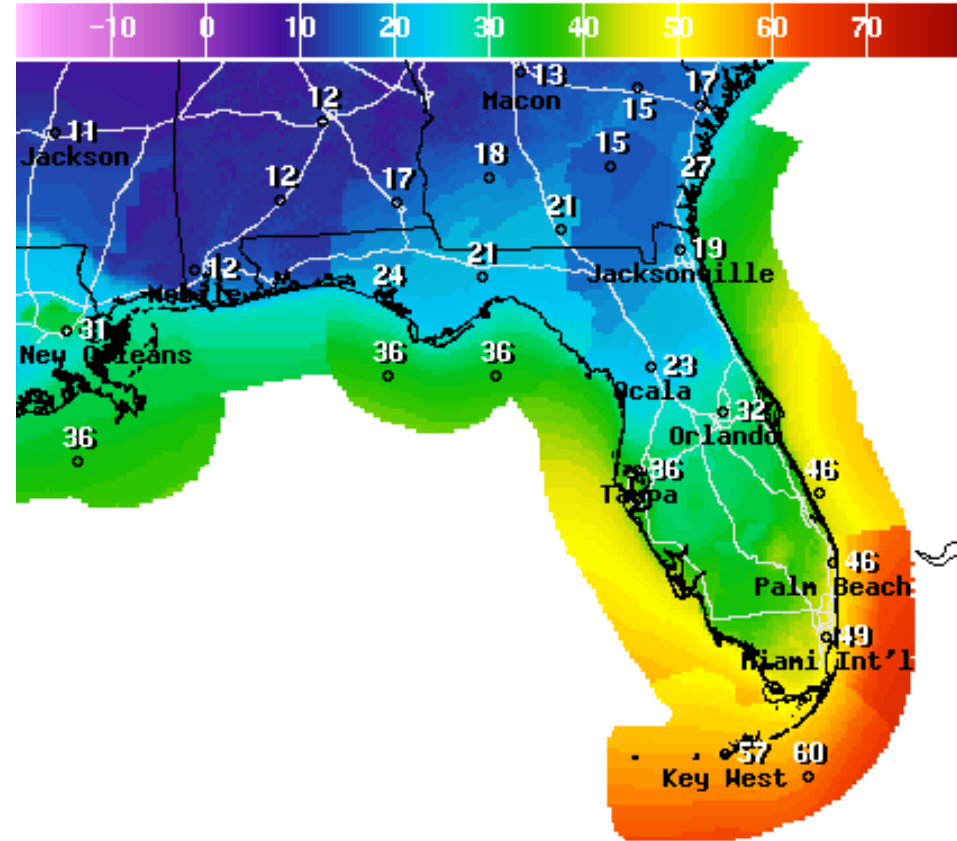
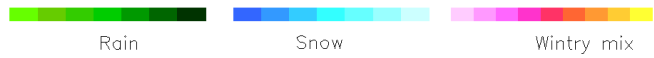
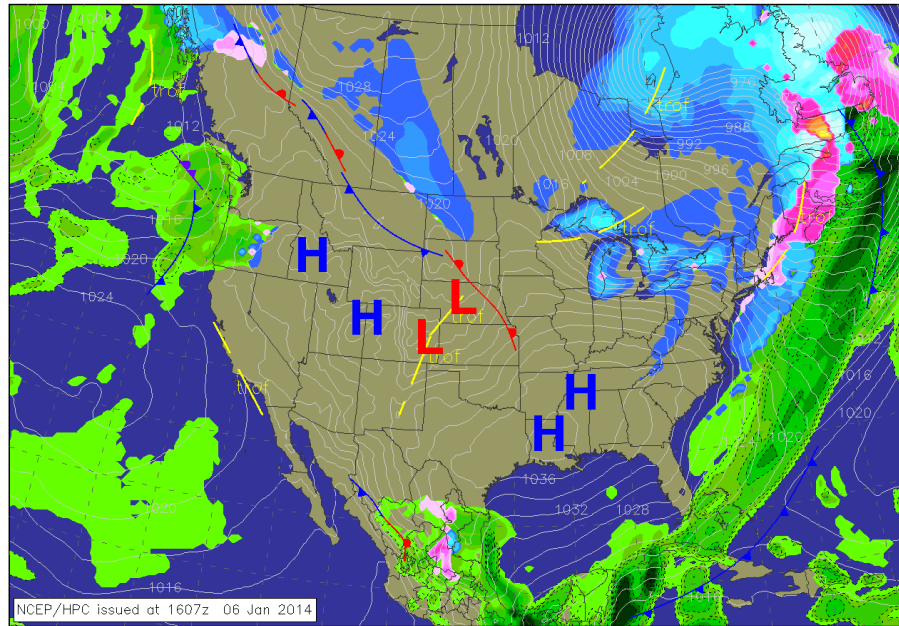
KGTV Current 31 Day Period





Current Weather

24 hr forecast valid 1200 UTC Tue 07 Jan 2014

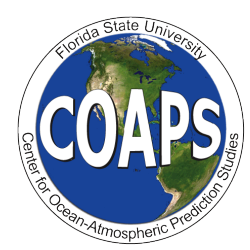


Low Temperature (F) Ending Tue Jan 07 2014 7 AM EST
(Tue Jan 07 2014 12Z)

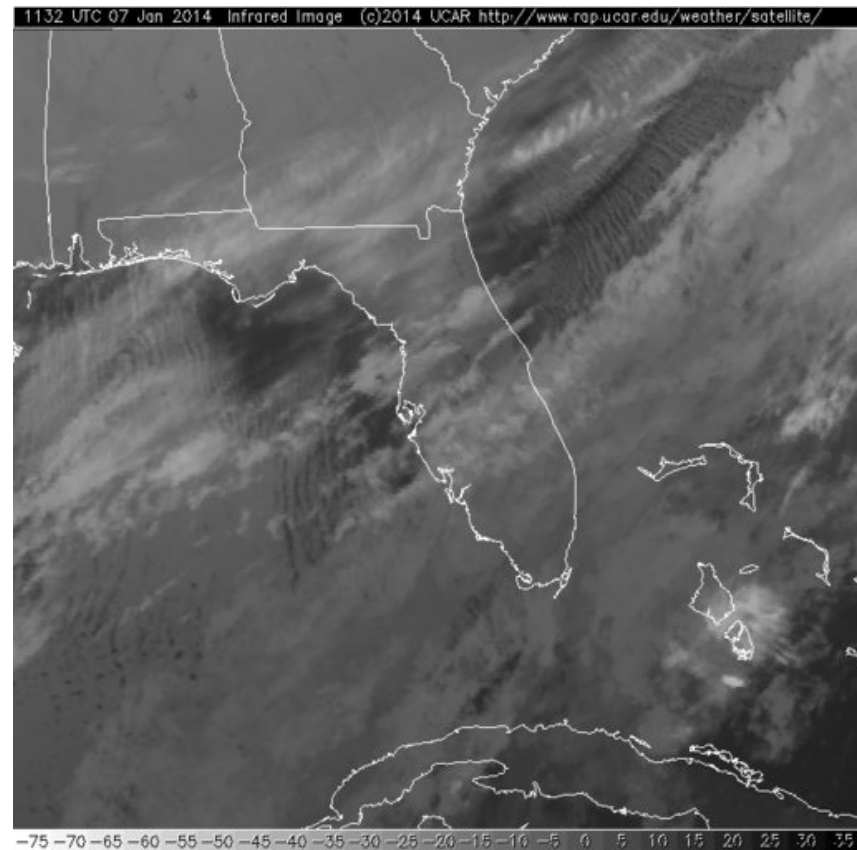
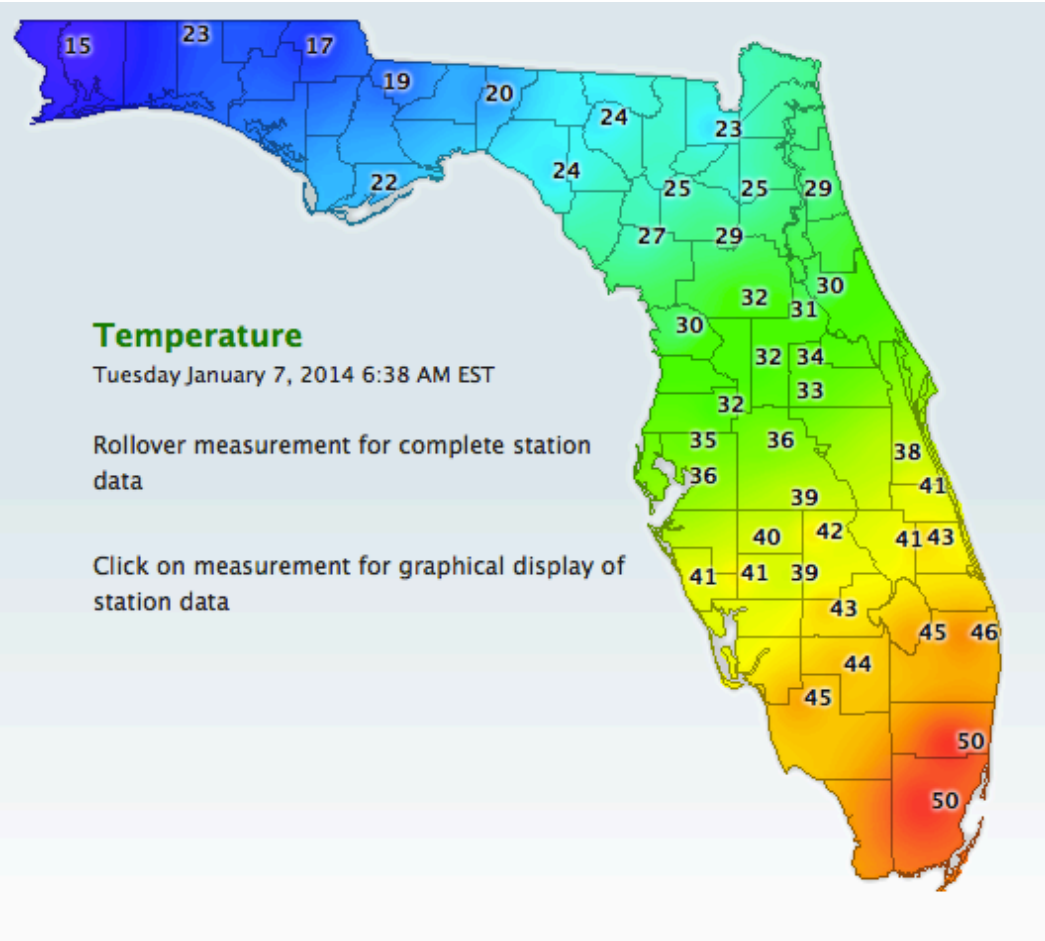


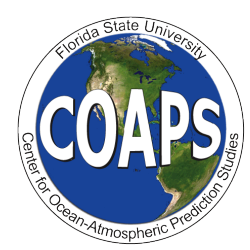
National Digital Forecast Database
14z issuance Graphic created-Jan 06 9:13AM EST



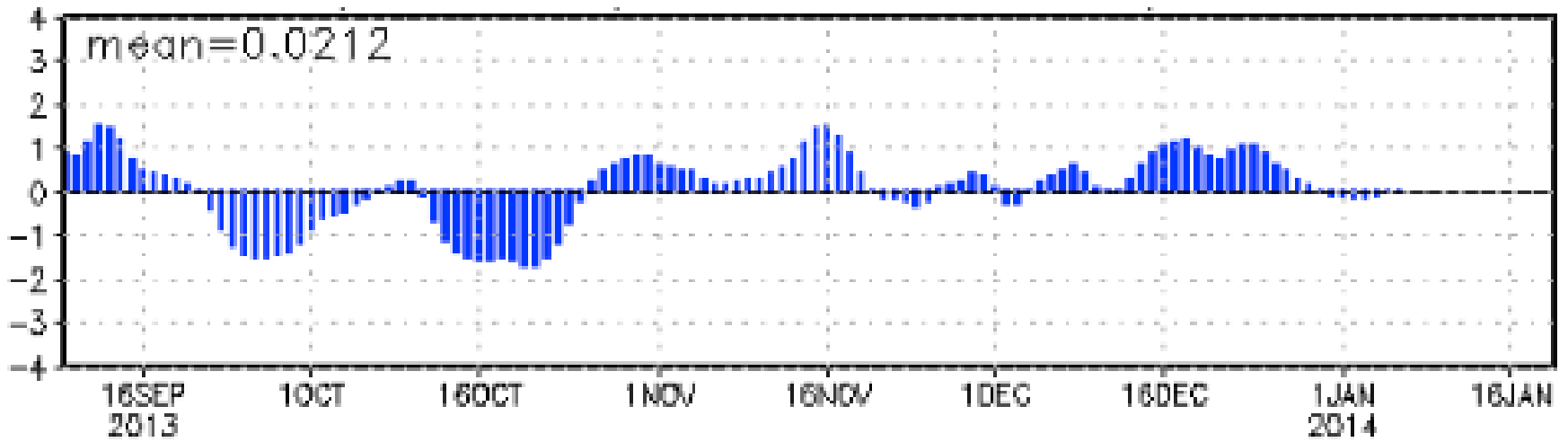


Morning Low Temperatures





Current NAO Index





Summary

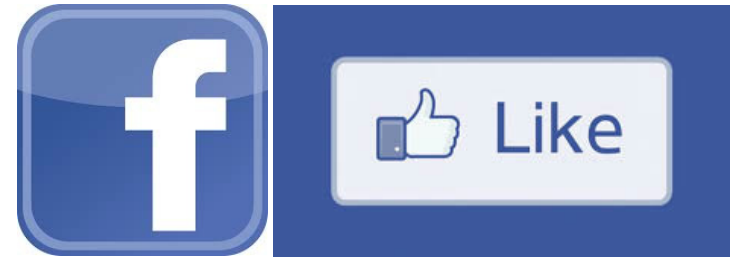
- Summer of 2013 the wettest on record (since 1895).
- Wetness due to mid-latitude troughing, not tropical activity.
- Hurricane season very quiet.
- Fall has been somewhat dry across the Southeast.
- Neutral conditions very likely to continue through Spring 2014.
- More variable winter weather, no tilt towards wetter and cooler or drier and warmer.
- Increased risk of damaging freezes during Neutral years
- NAO is wildcard that can bring very cold temperatures in all ENSO phases.





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FSU-COAPS Predicts Above Average Atlantic Hurricane Season

The 5th annual forecast, led by Dr. Tim LaRow, calls for a 70 percent probability of 12 to 17 named storms, including 5 to 10 hurricanes. The mean forecast is 15 named storms, 8 hurricanes, and an average accumulated cyclone energy (a measure of the strength and duration of storms accumulated during the season) of 135. [More...](#)

News

- Southeast climate not following global warming trend
- FL Climate Center newsletter
- NOAA monthly climate report
- Global Warming's Six Americas report

Events

North FL AMSINWA Meeting
Thu, 11/21/2013
Tallahassee, FL

Climate Roundup Seminar with David Zierden
Thu, 11/21/2013
3:30pm - 4:30pm
Warner A Baum Seminar Room (353 Love Building)

FL Climate Summary

During October, average temperatures and rainfall totals varied across Florida. ENSO-neutral conditions are continuing in the equatorial Pacific. NOAA's Climate Prediction Center predicts normal temperatures and below normal precipitation for Florida through January.

Hurricane Activity

Graphical Tropical Weather Outlook

Tallahassee Weather

61.0° F (16.1° C)
Mostly Cloudy

Dewpoint: 54.0° F (12.2° C)
Relative Humidity: 78%
Wind: East at 10.4 MPH (9 KT)
Visibility: 10.00 miles

Newsletter

THE FLORIDA STATE UNIVERSITY

FloridaClimateCenter
Office of the State Climatologist

November 2013 Newsletter

Join Our Email List



Dear Florida Climate Center Friends,

We'd like to present you with the November 2013 edition of our newsletter. In this newsletter, you'll find our monthly climate summary, a list of special events that our staff attended, and a winter 2013-2014 climate outlook. If you have any questions, please email us at climate@coaps.fsu.edu.

Thanks,
The Staff of the Florida Climate Center



David Zierden
State Climatologist



James O'Brien
Professor Emeritus



Melissa Griffin
Asst. State Climatologist

Fall Back Sunday, November 3

Just a reminder to everyone that Daylight Saving Time ends at 2:00 AM on Sunday, November 3rd. Remember to turn your clocks back an hour before you go to sleep Saturday night.

October Climate Summary for Florida

The Florida Climate Center's [October 2013 Florida Climate Summary](#) is now available. The summary provides an analysis of temperature and precipitation trends across the state, along with data on hazardous weather, drought, the impacts

AgroClimate.org