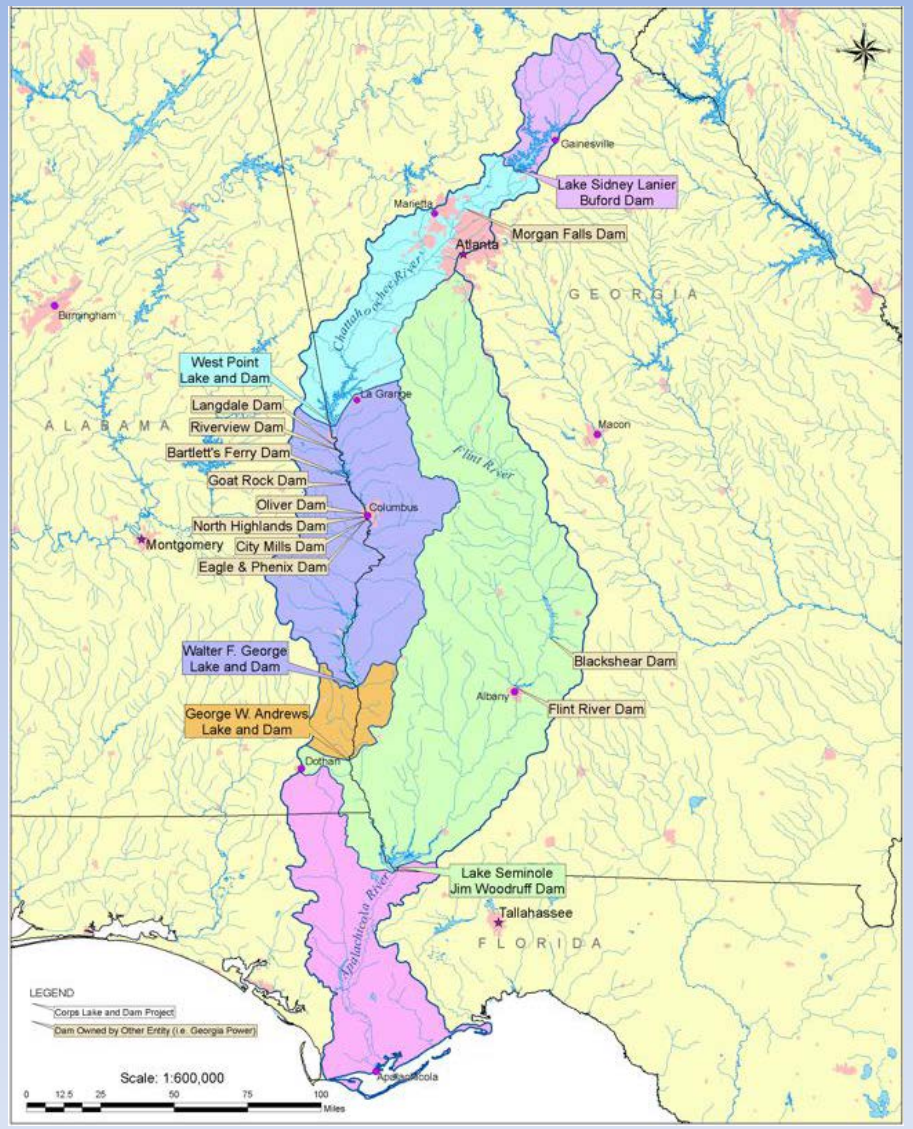
National Integrated Drought Information System

Drought Early Warning for the Apalachicola-Chattahoochee-Flint River Basin

27 October 2015



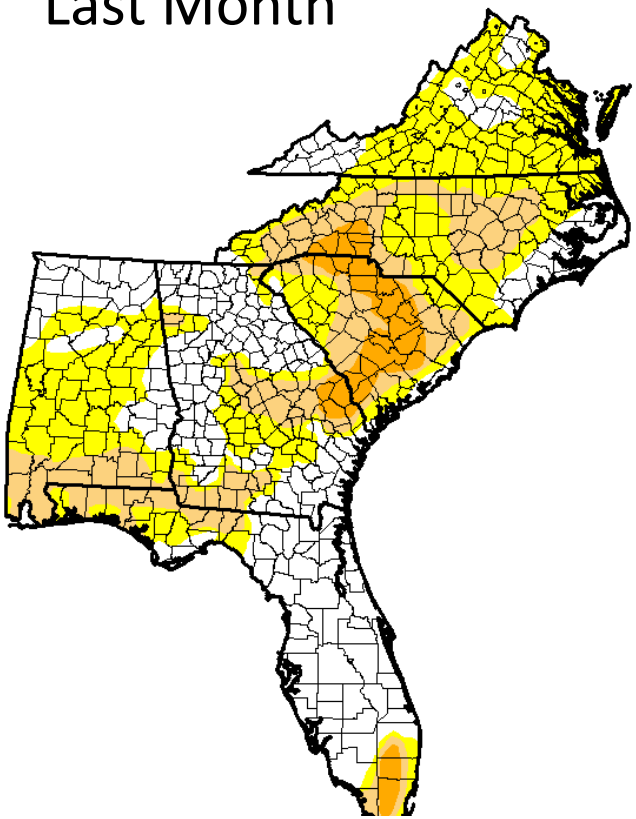
Outline

Welcome – Eric Reutebuch, AU Water Resources Center

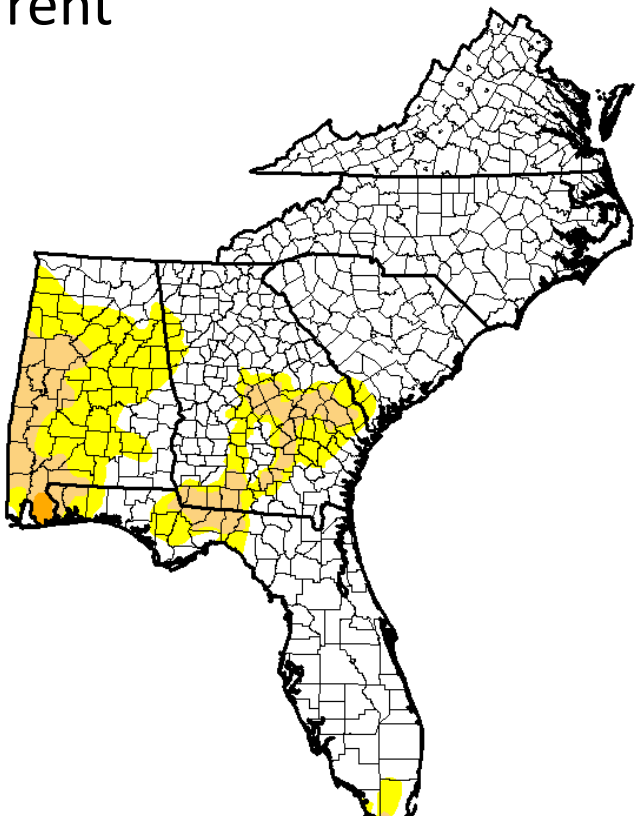
- Current drought status, seasonal forecasts and outlooks – David Zierden, Florida Climate Center, FSU
- Streamflows and groundwater – Paul Ankcorn, USGS
- Streamflow forecasts – Jeff Dobur, SERFC
- Summary and Discussion

Current drought status

Last Month



Current

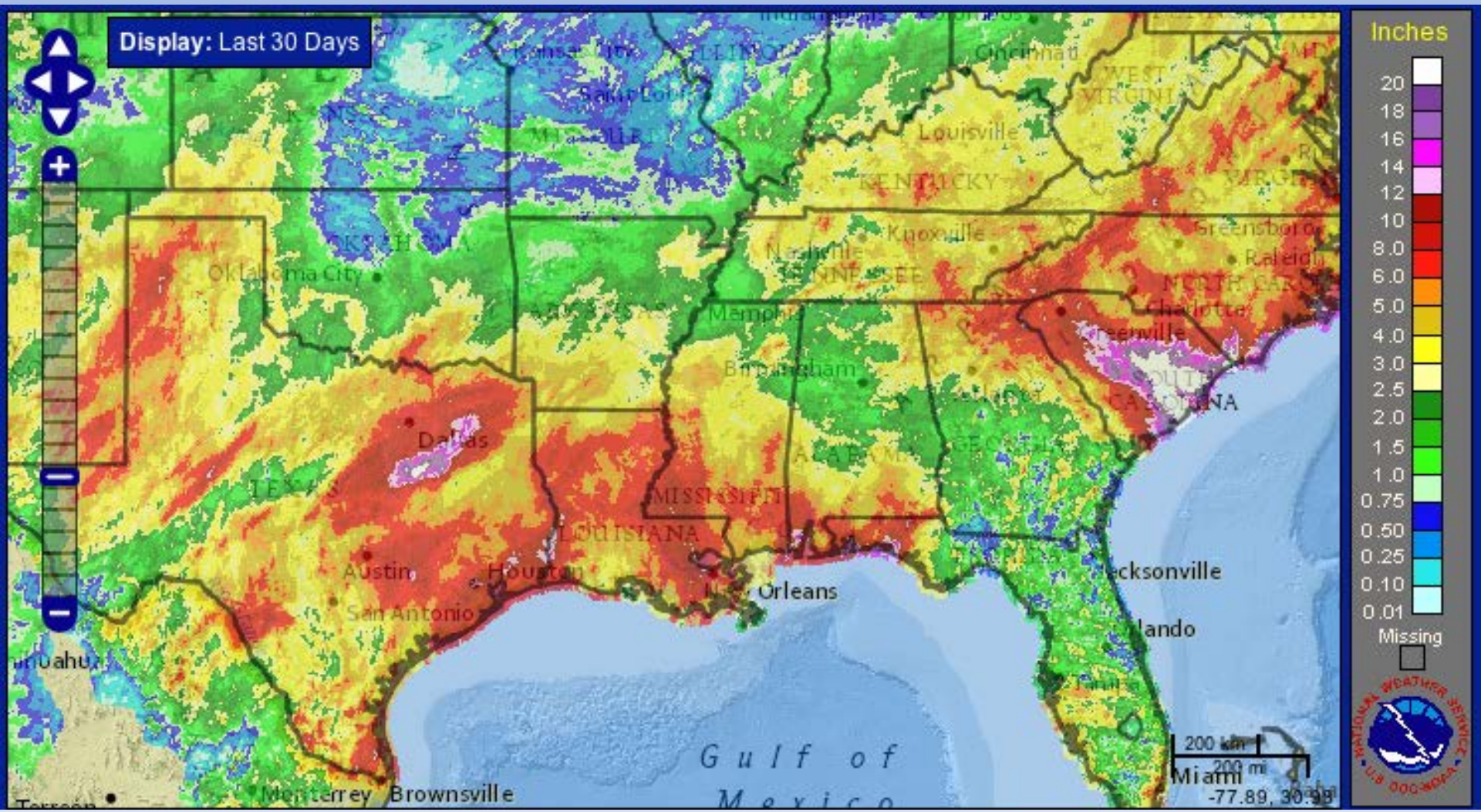


Intensity:

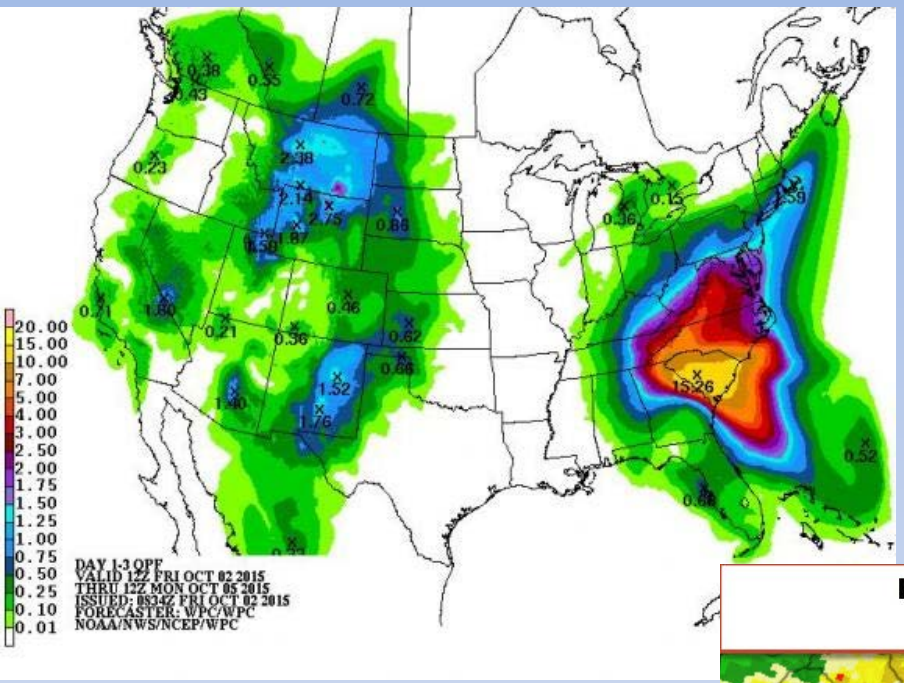
- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought
- D3 - Extreme Drought
- D4 - Exceptional Drought

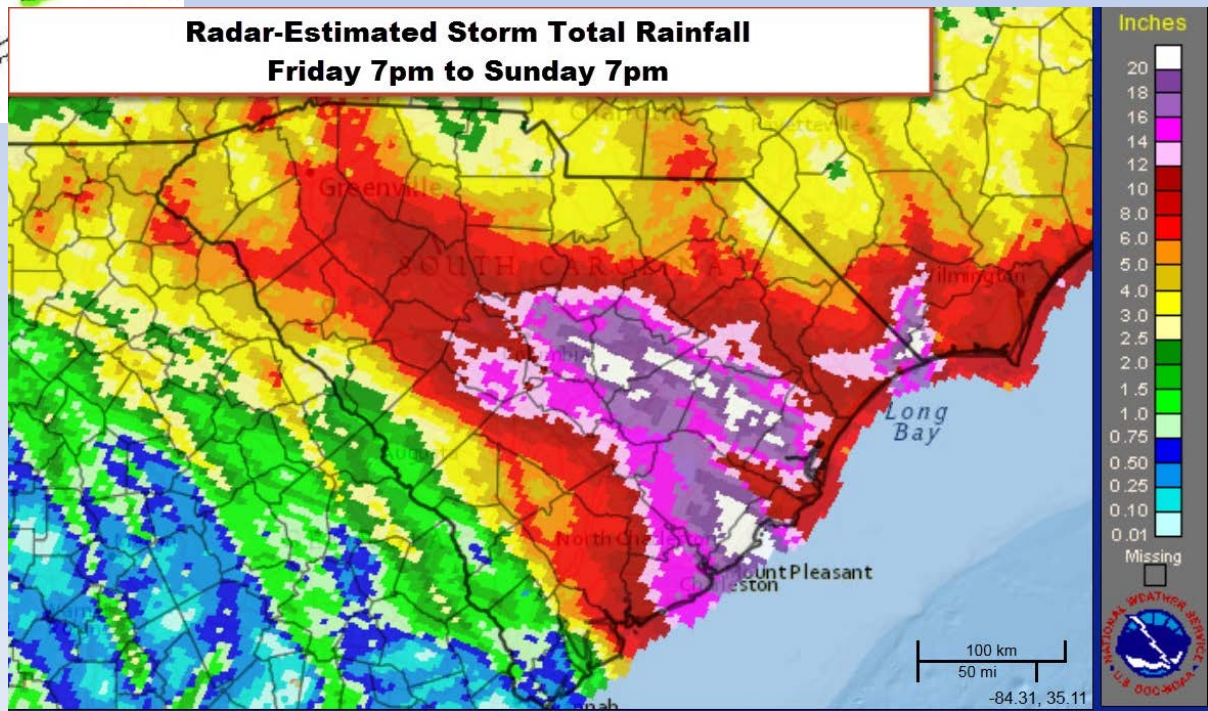
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying **text summary** for forecast statements.*

Flooding Rain in South Carolina and Texas

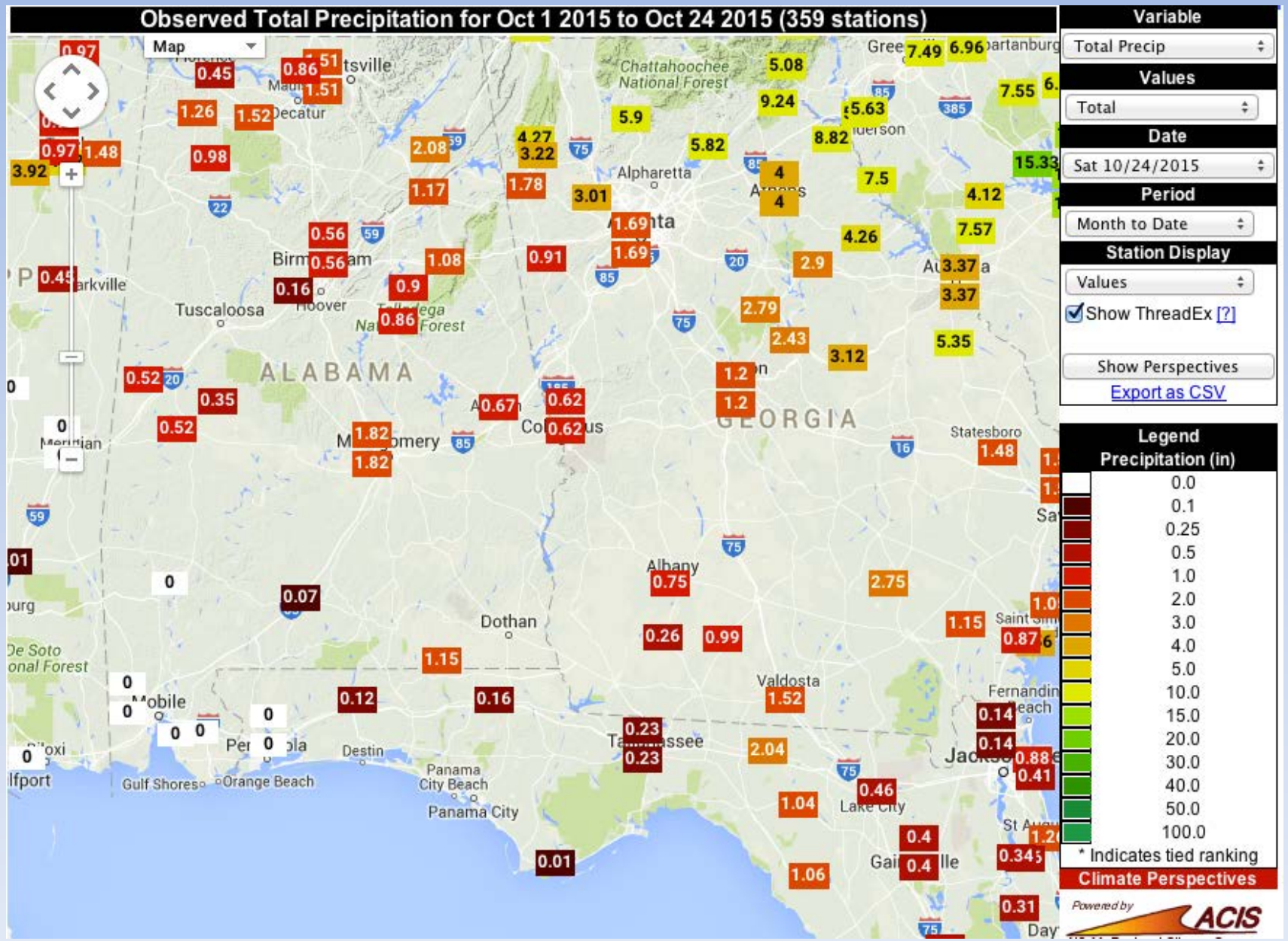


South Carolina Rainfall Forecast

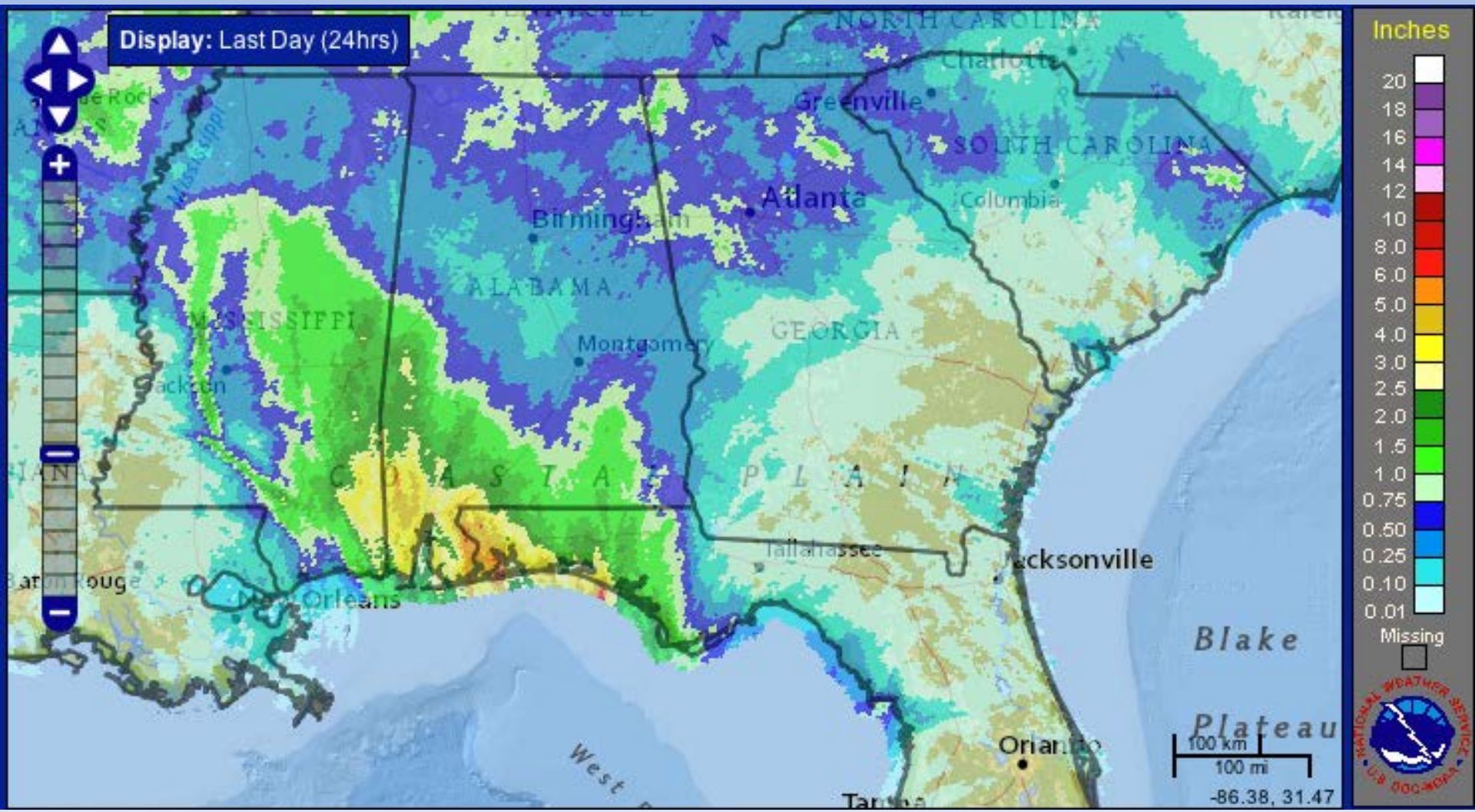




Dry for Most of October

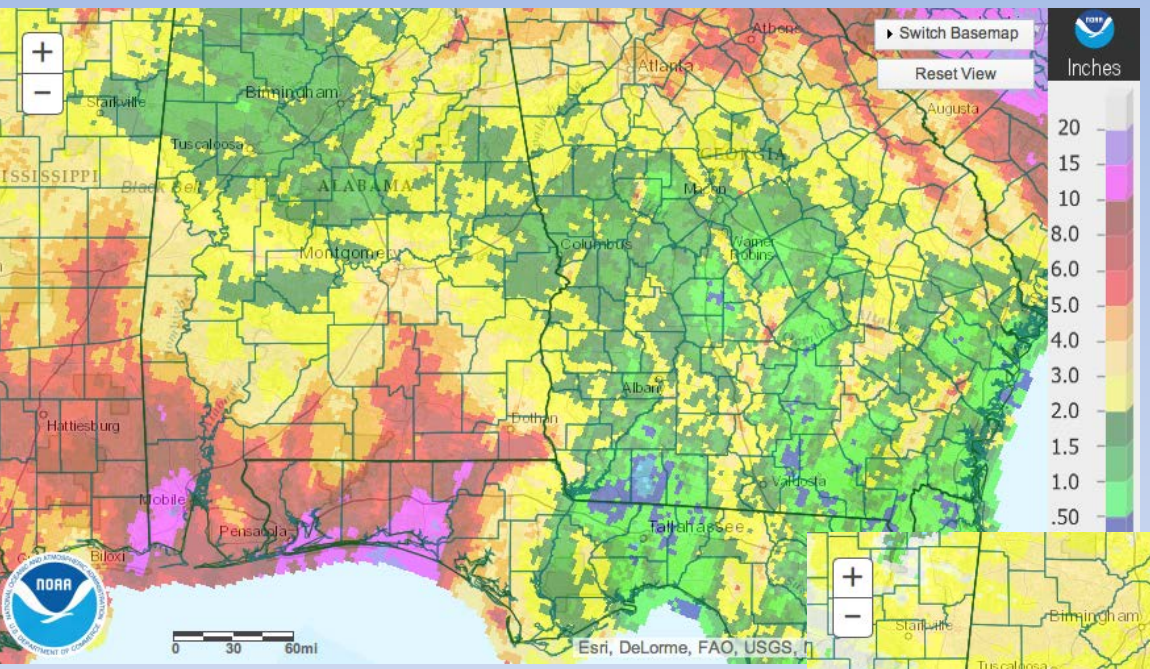


Rainfall – Last 7 Days

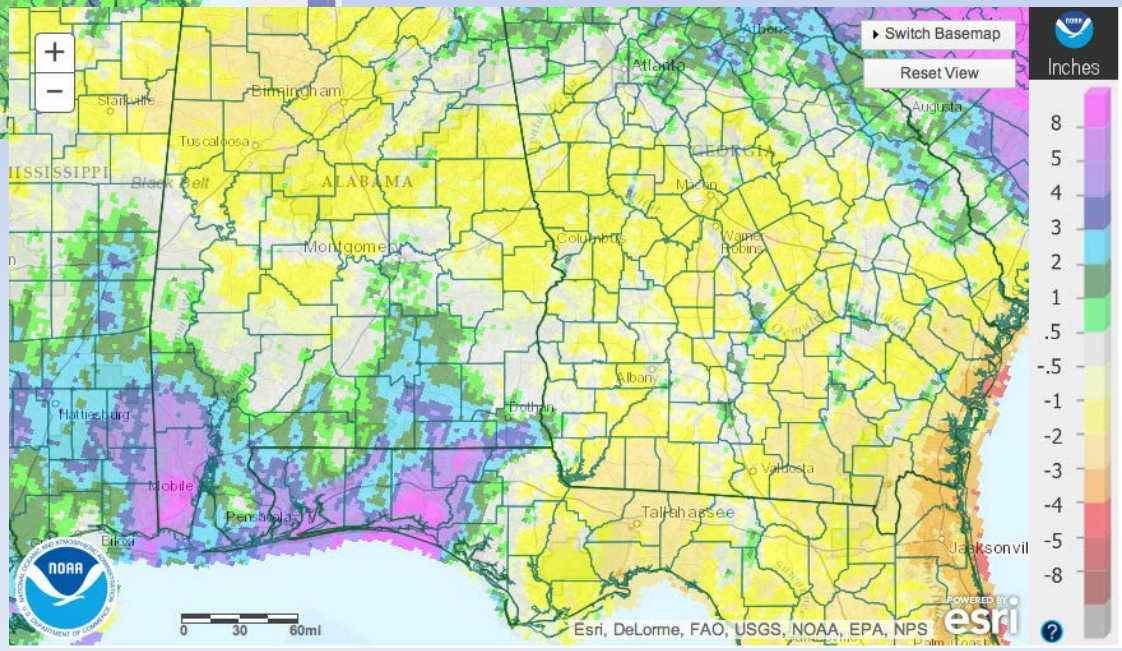


30-Day Rainfall

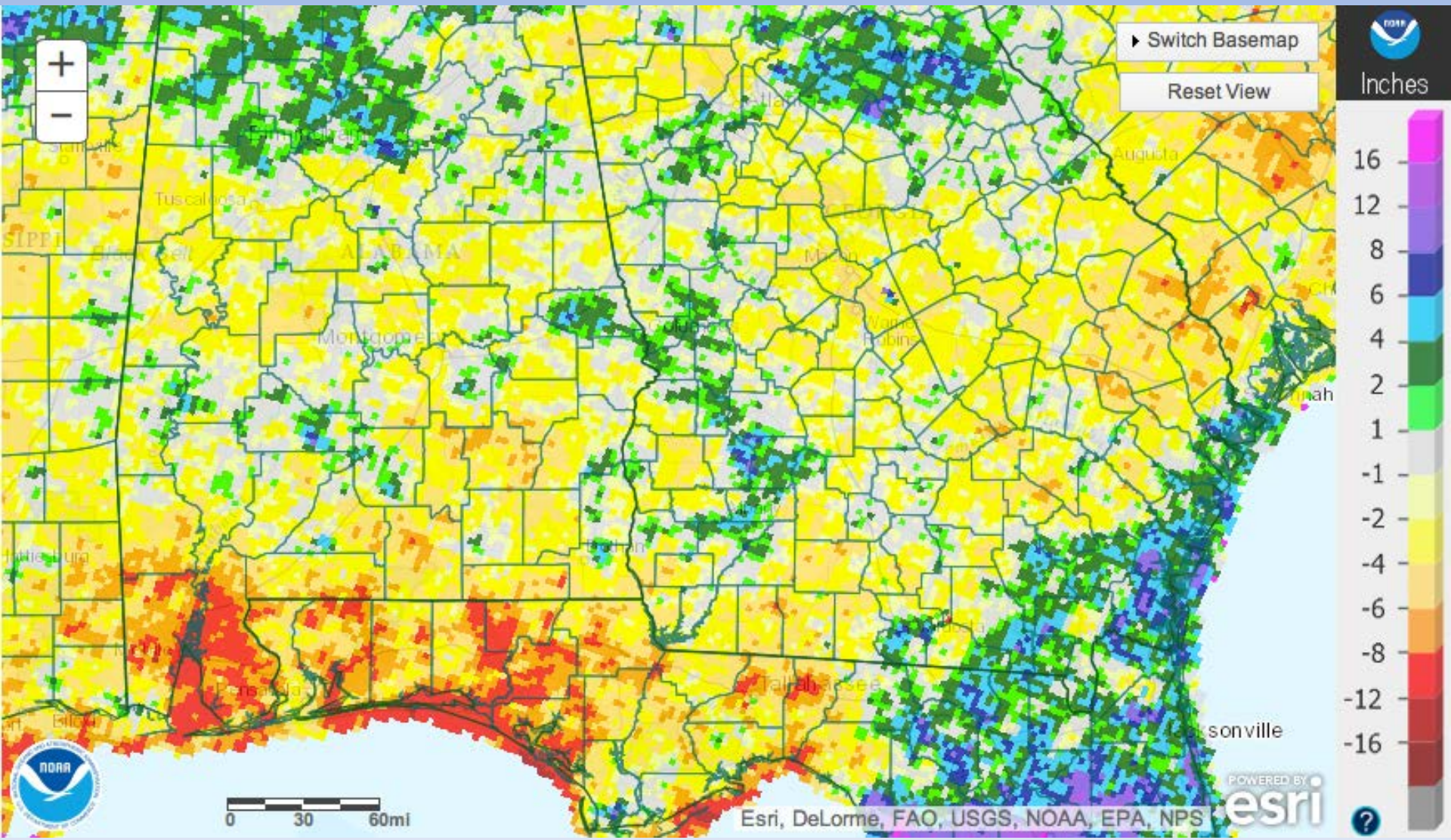
Totals



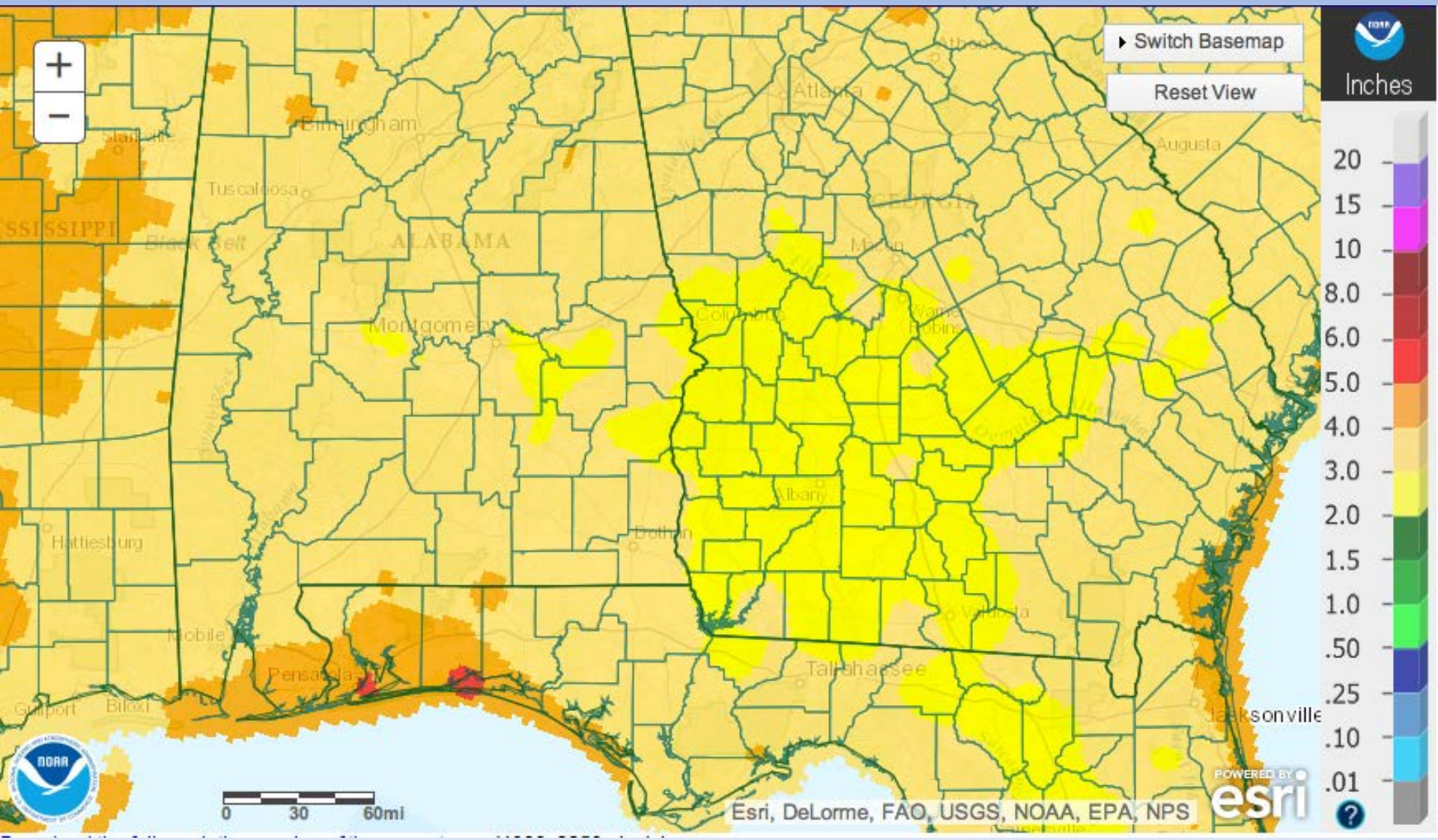
Departure from Normal



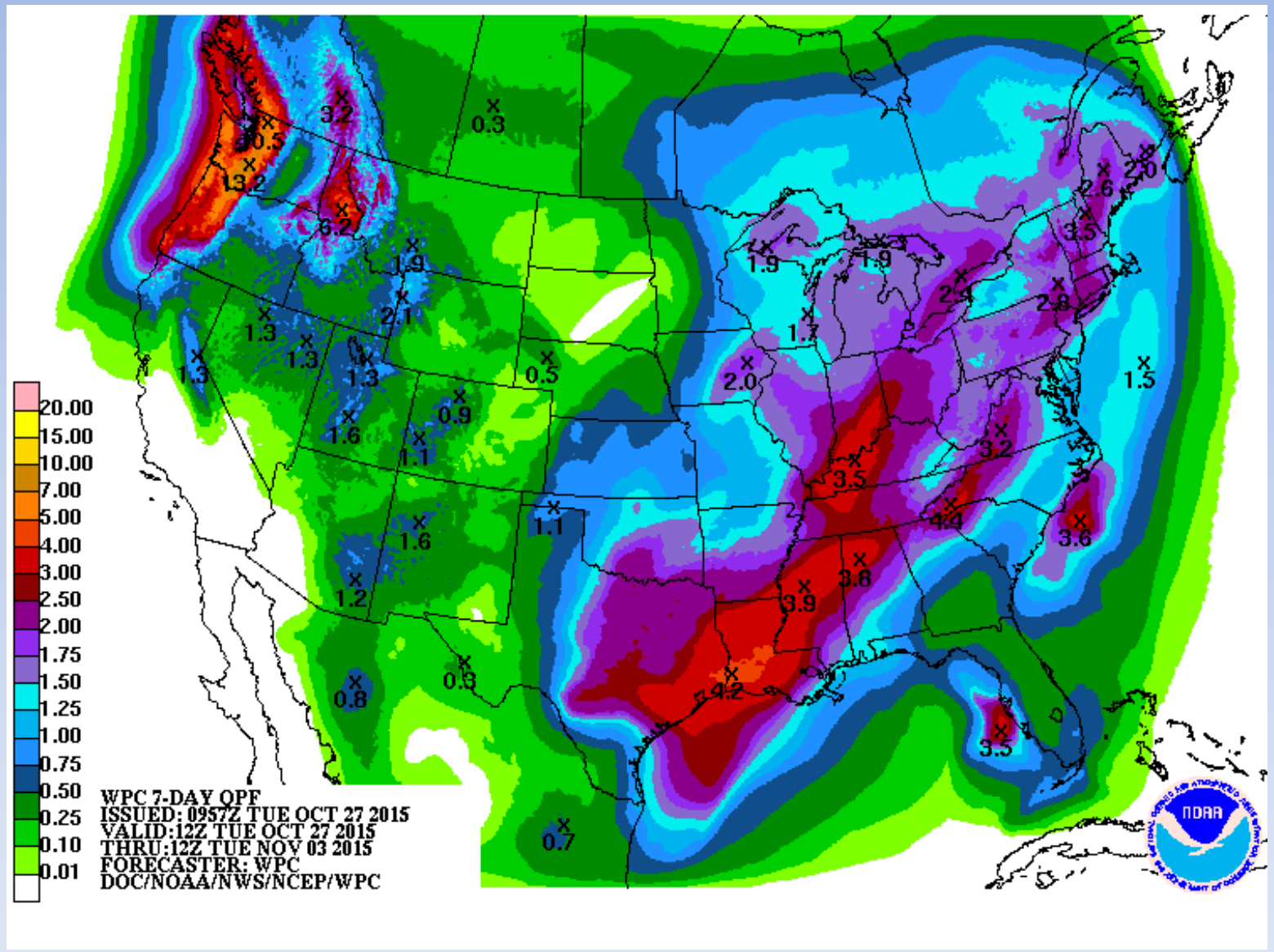
90-day Rainfall Departures



October is Driest Month of the Year

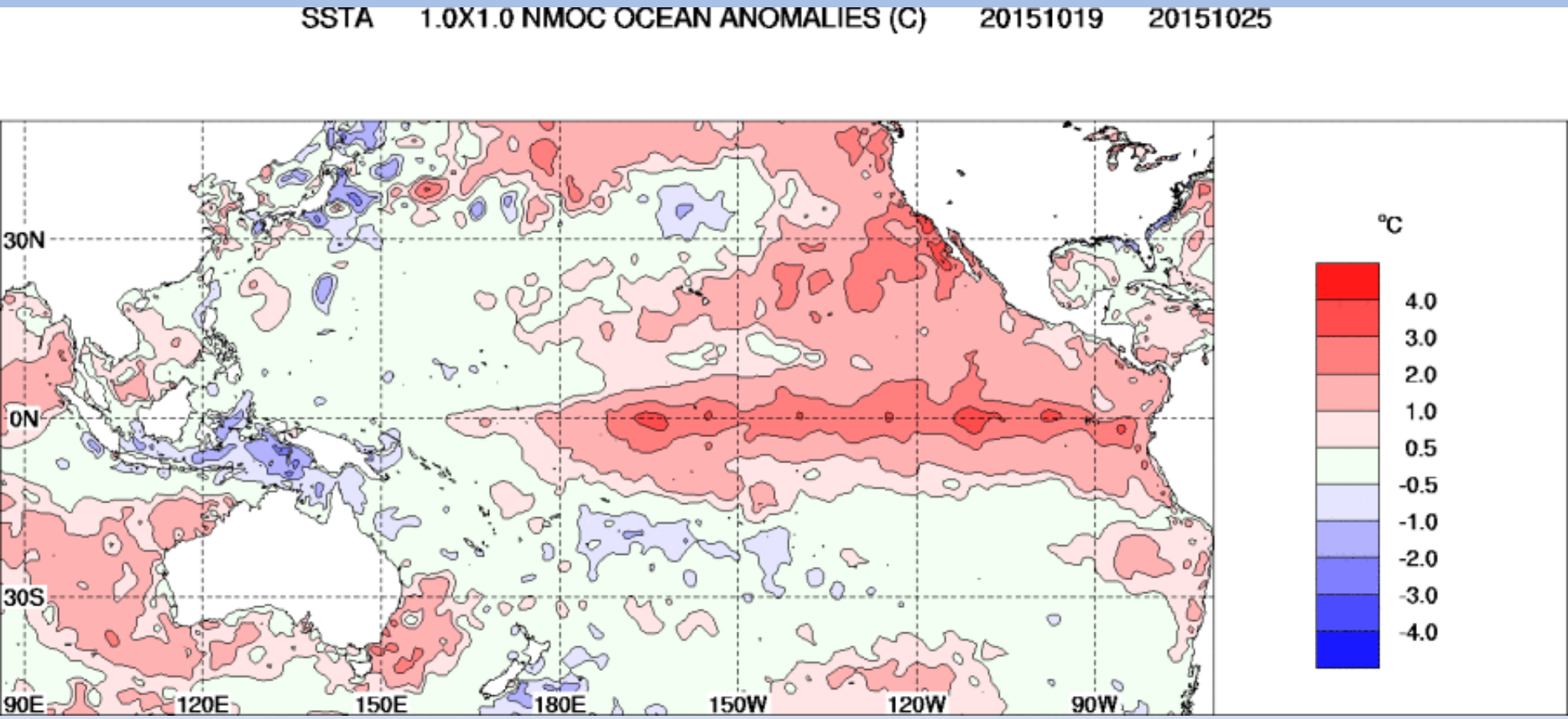


7-Day Precipitation Forecast*

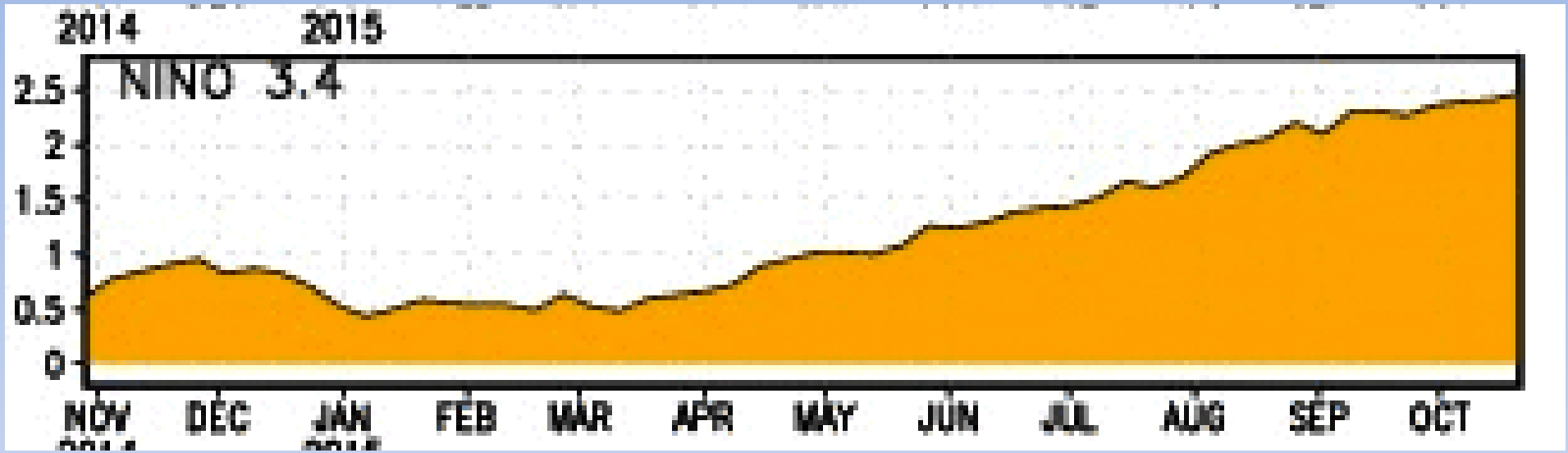


*updated post-webinar

Current SST Anomalies

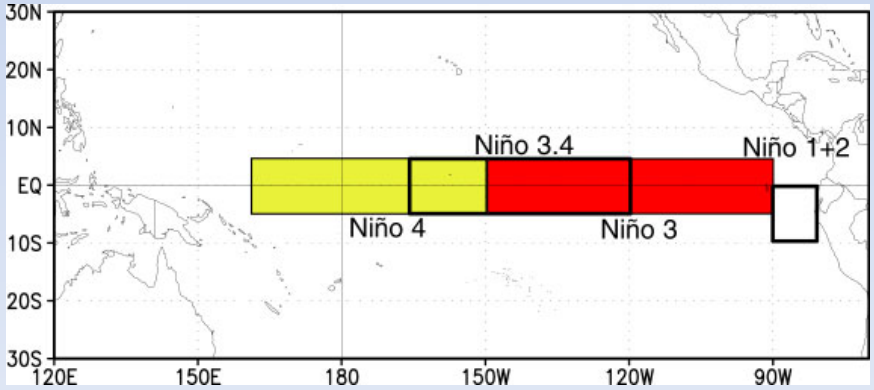


Nino 3.4 Index

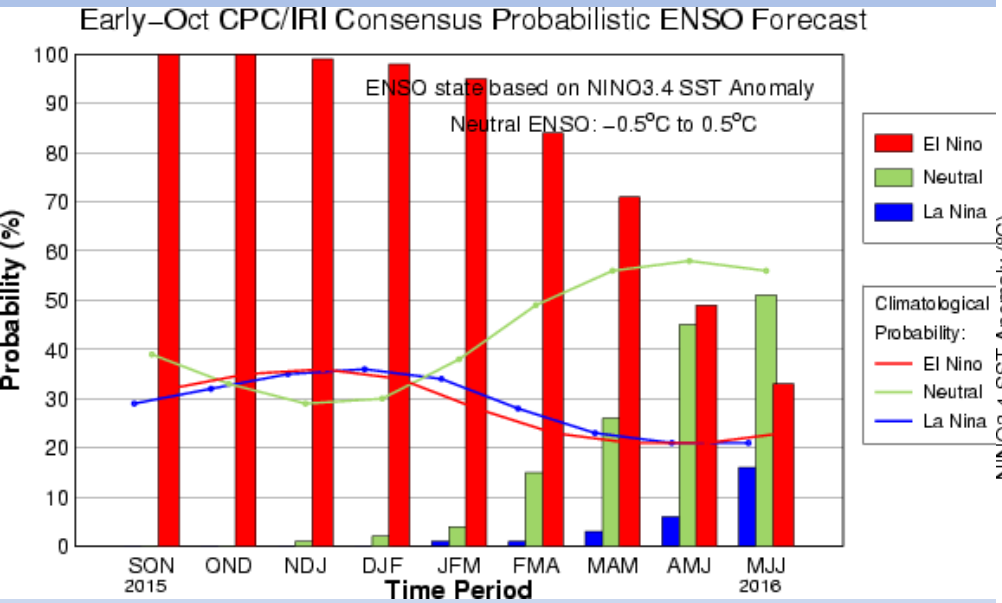


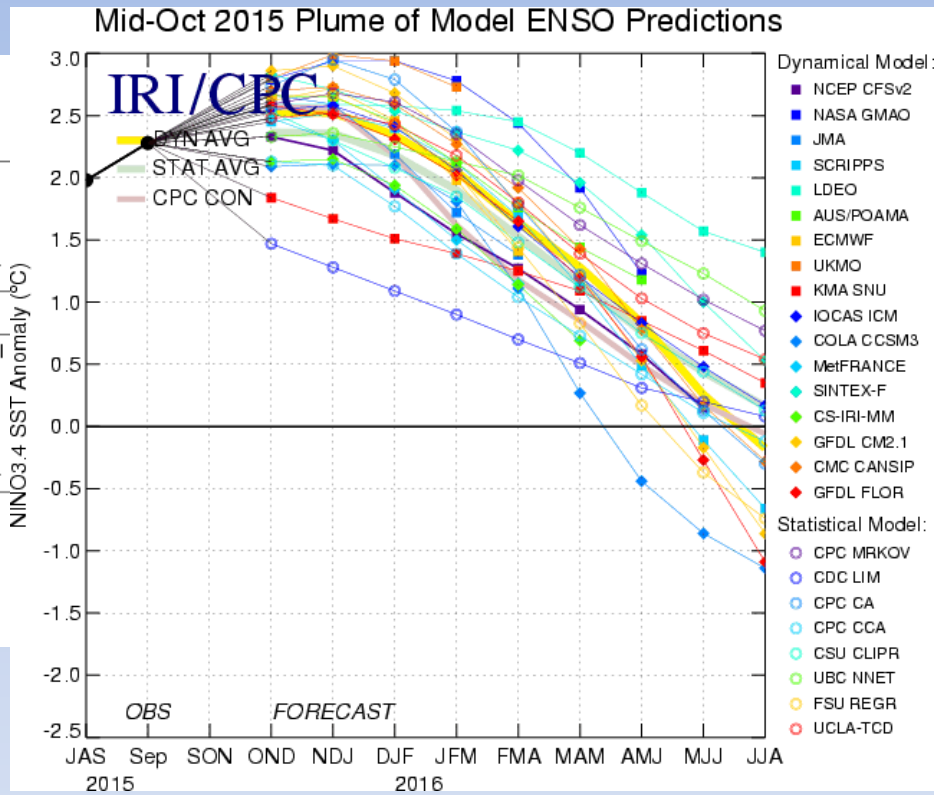
- Current weekly value at +2.5, into the “very strong” range

- Reached weekly peak value of 2.8 in Nov. 1997

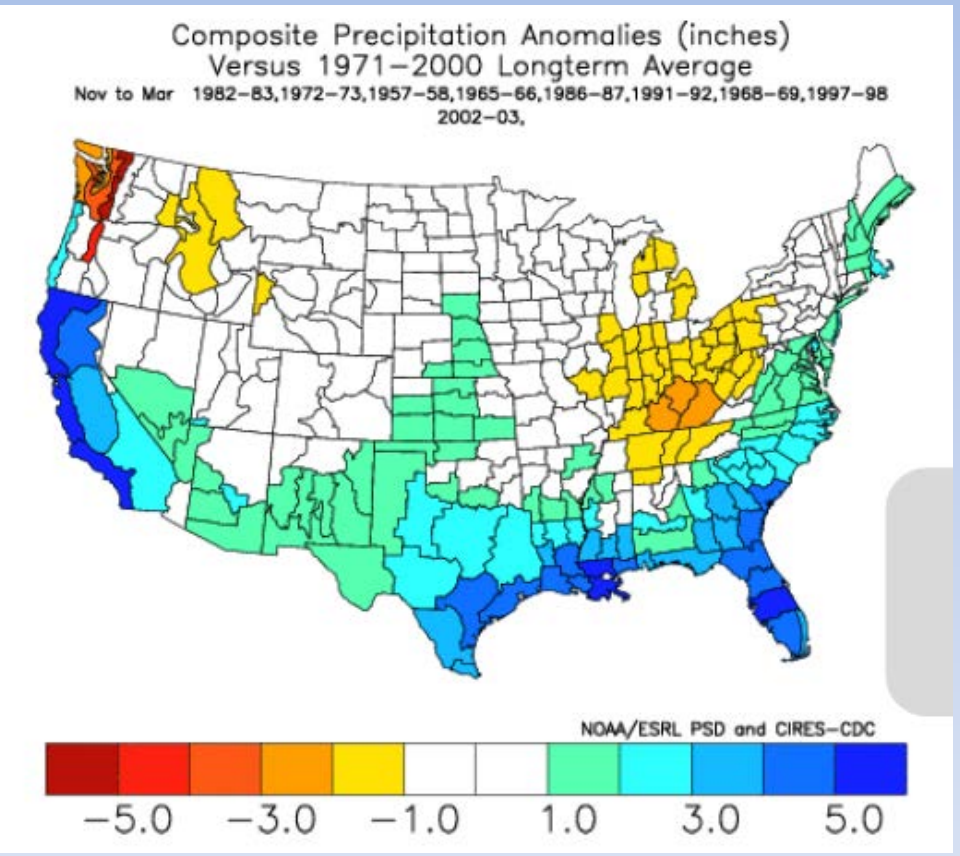


Nino 3.4 Forecasts





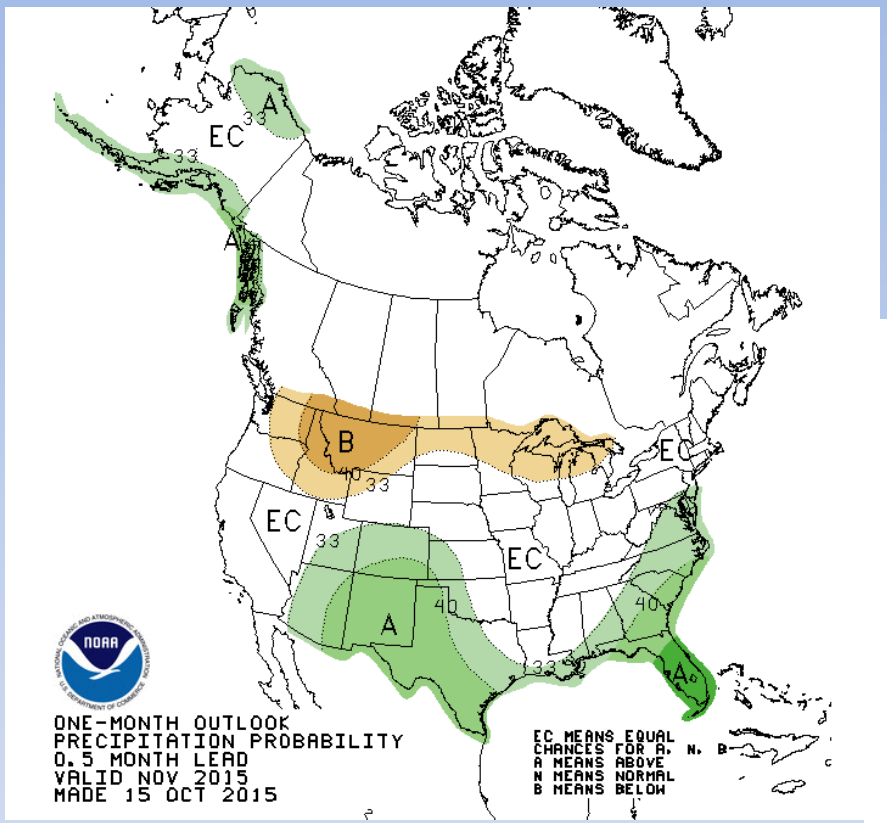
El Nino and Winter Rainfall



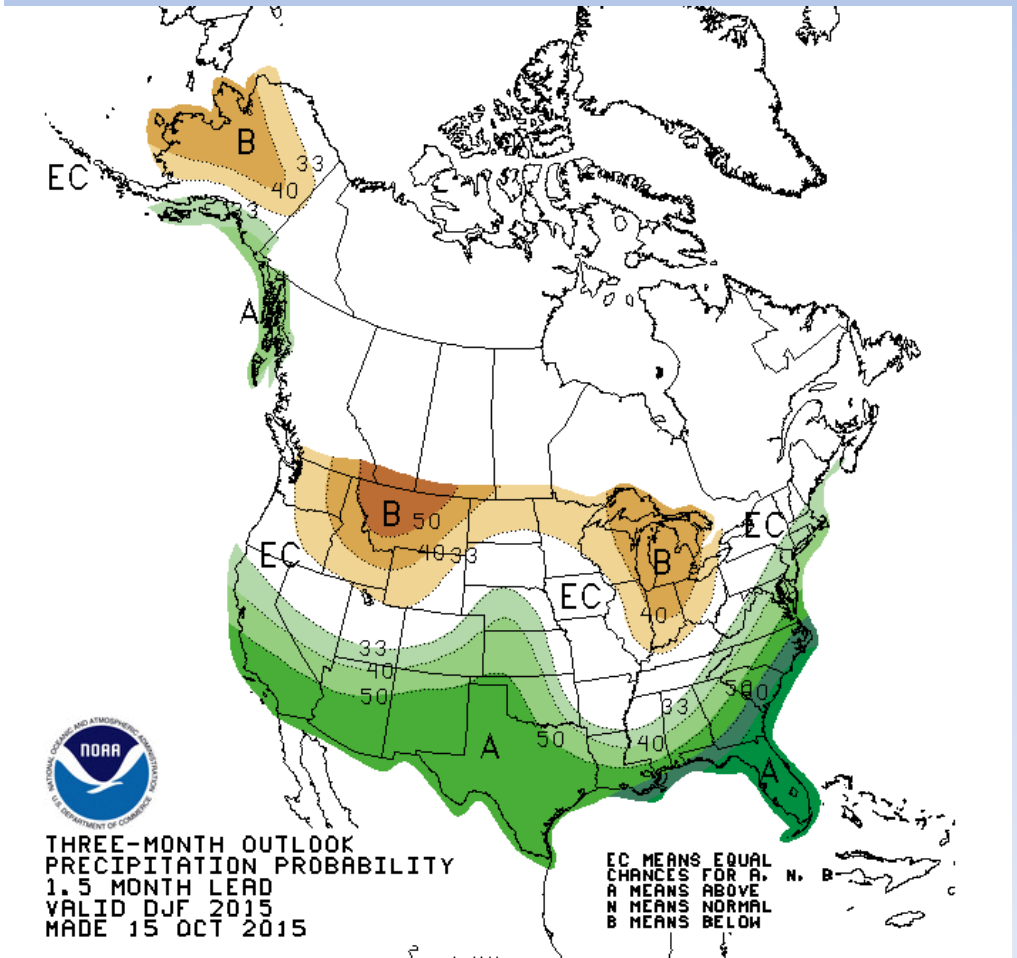
- El Nino typically brings enhanced winter rainfall to California and the southern U.S., including Texas and Florida.
- California Rainfall more hit or miss than other Southern States
- Strong El Nino does not necessarily mean even more rainfall, just more confidence in following the pattern.

Official NOAA Outlook

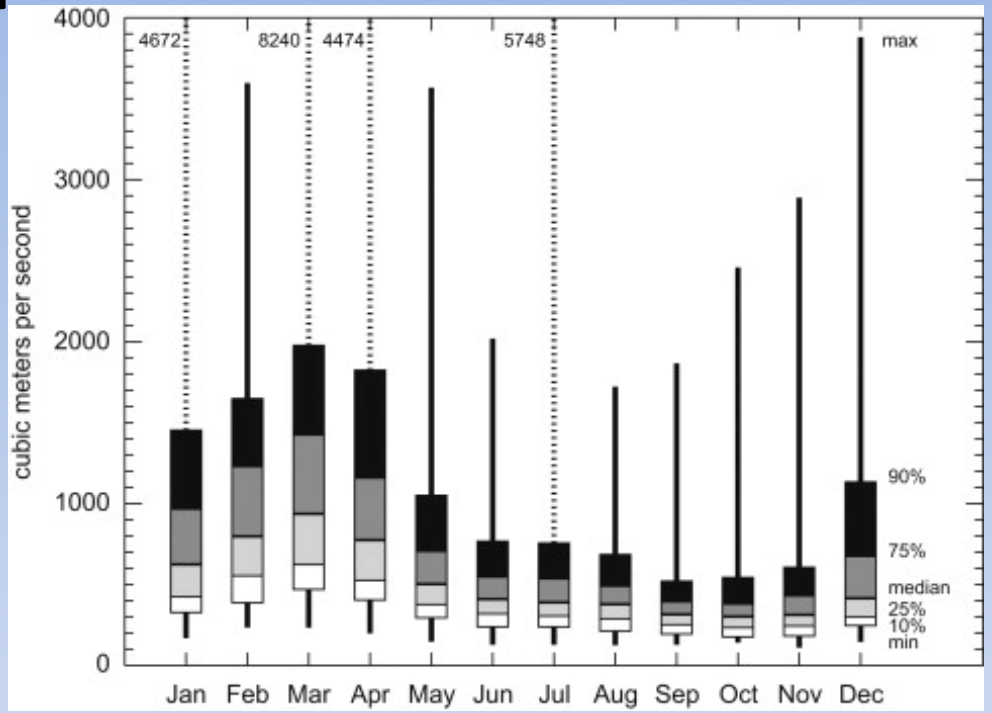
One Month

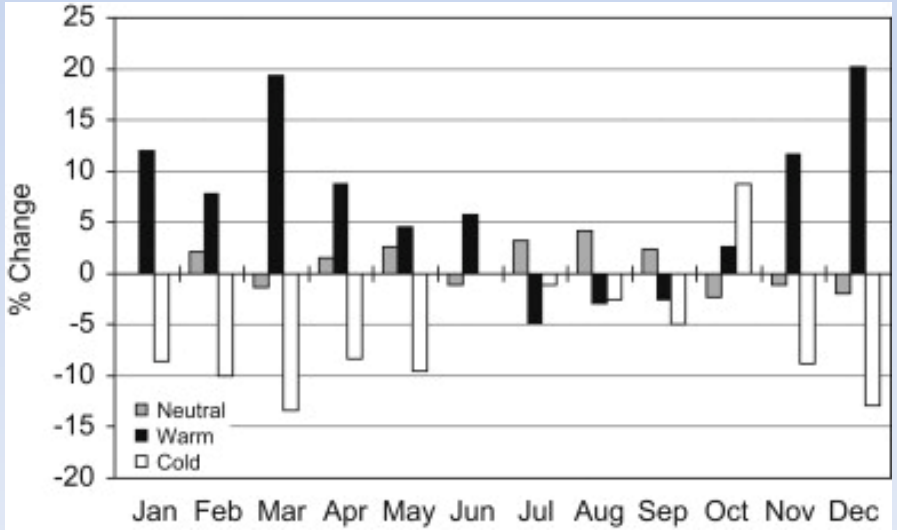


Winter (DJF)

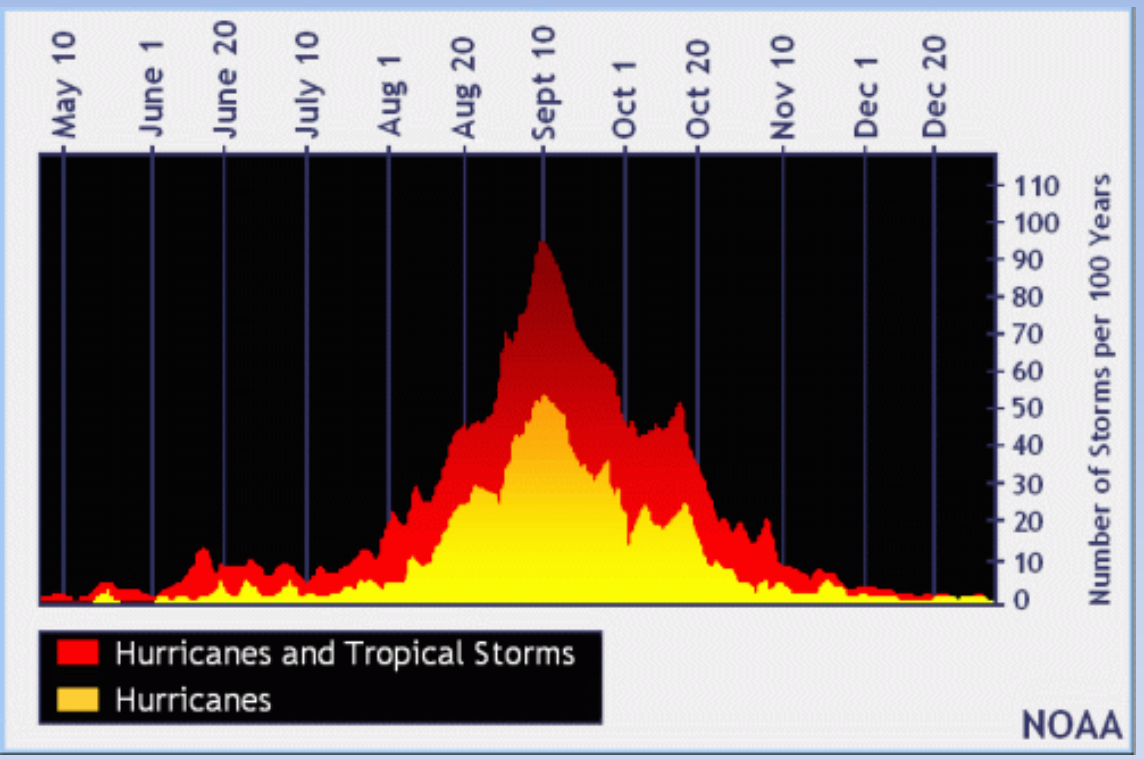


Apalachicola River Flows





Atlantic Hurricane Summary

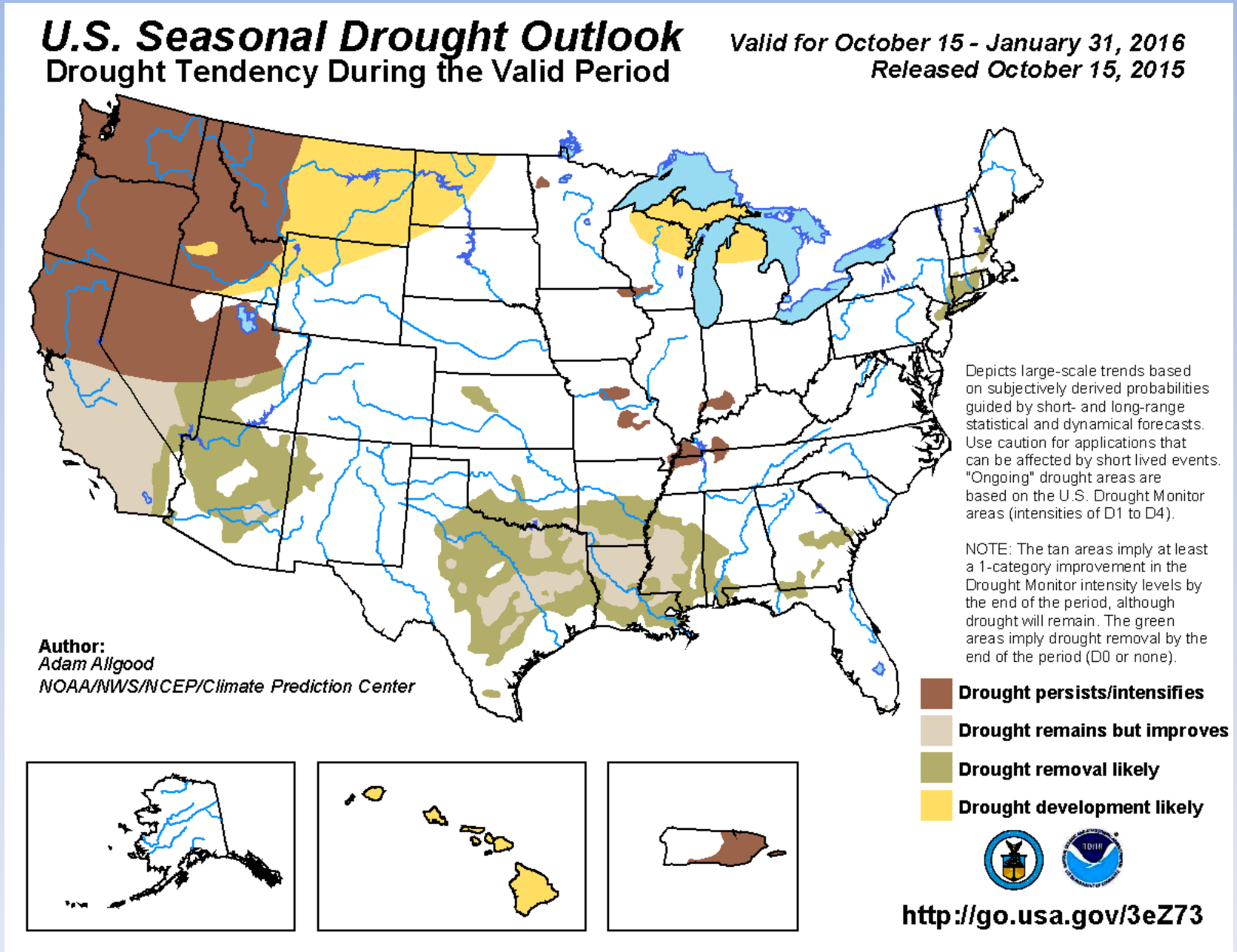


- Now over 10 years since a major U.S. landfall or any Florida hurricane landfall (Wilma 2005)
- Shear at record levels over the Caribbean this year

North Pacific Summary

- 22 Category 4-5 hurricanes in the North Pacific thus far in 2015
- ACE running at record levels for all regions of the N. Pacific

U.S. Drought Outlook

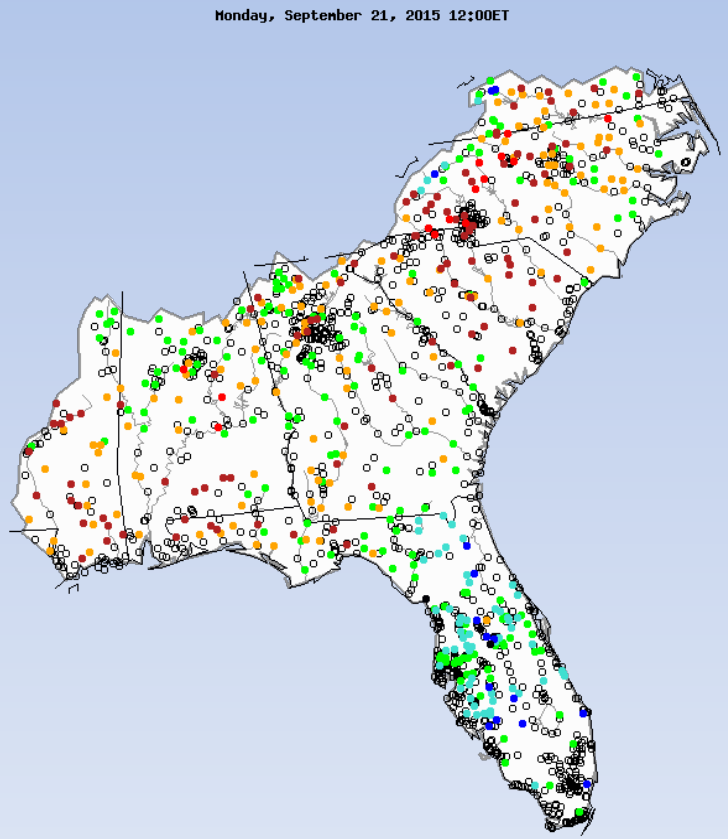


Streamflows and Groundwater

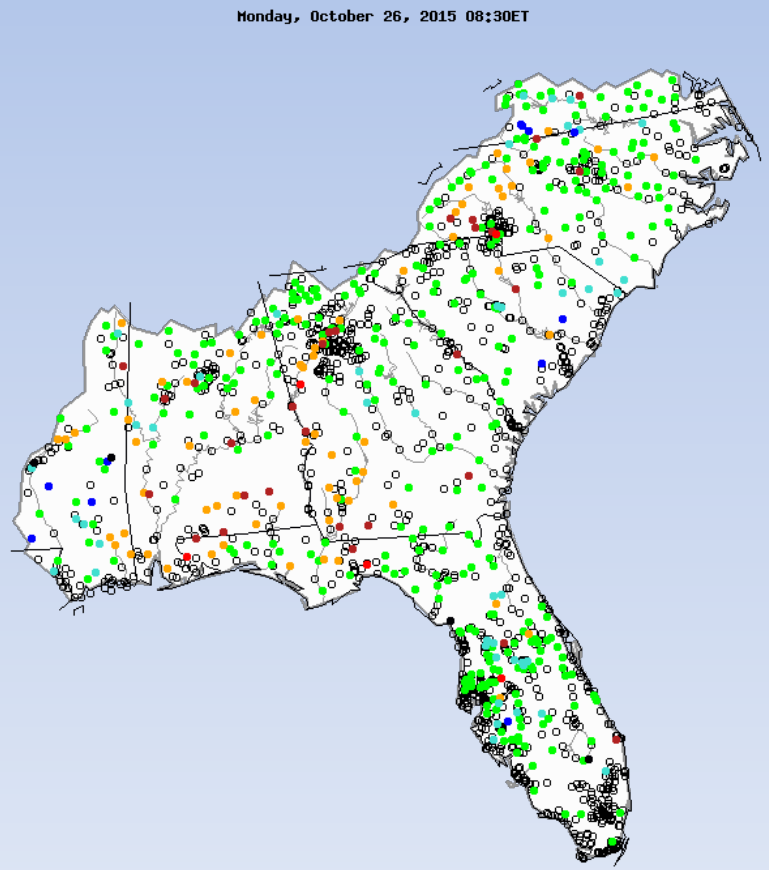
Paul Ankcorn

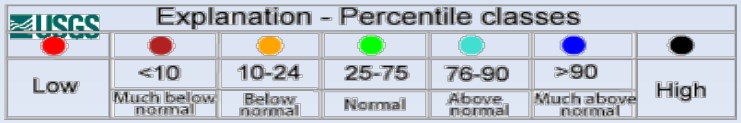
Realtime stream flow compared with historical monthly averages

Previous Brief:



Current:



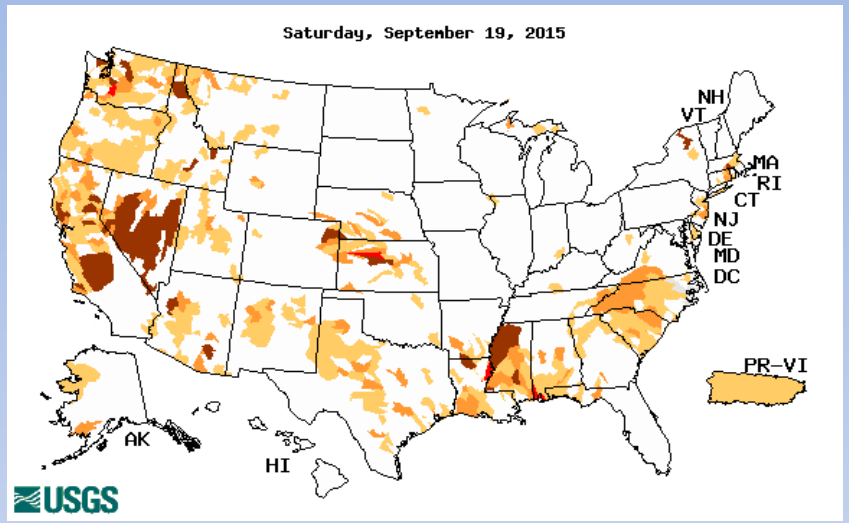


USGS

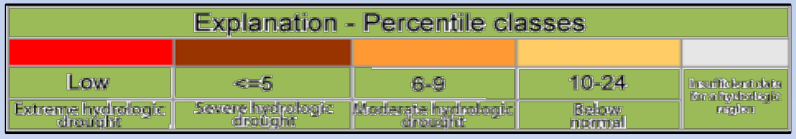
http://waterwatch.usgs.gov

Below Normal 7-day Average Streamflows

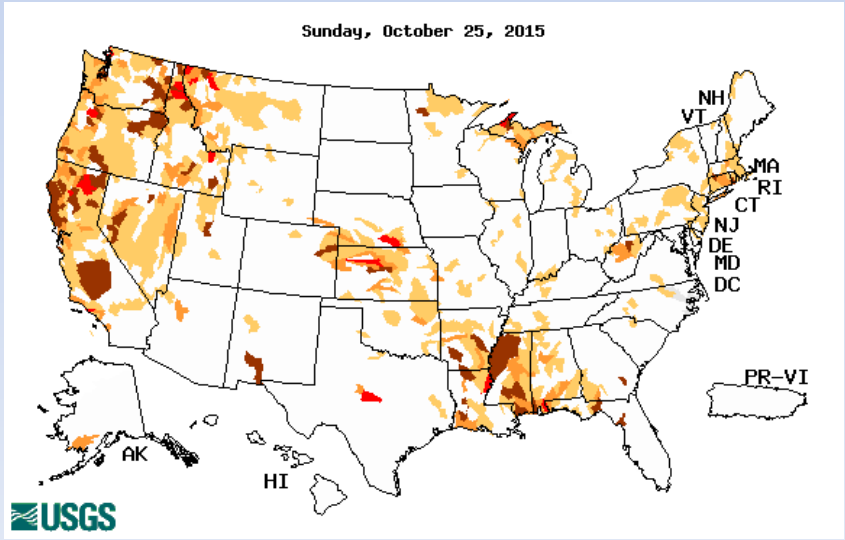
Previous brief:



Below normal 7-day average streamflow as compared with historical streamflow for day shown



Current:



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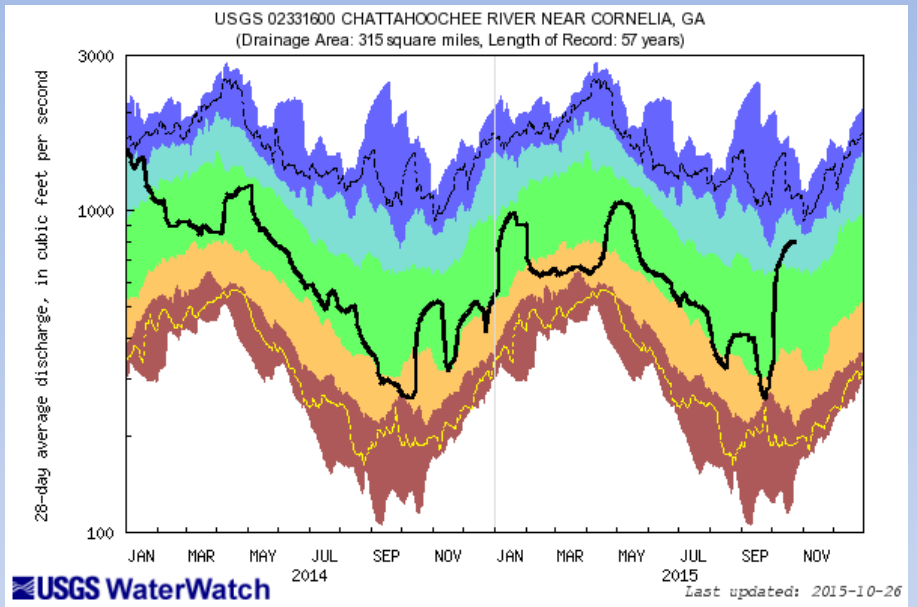
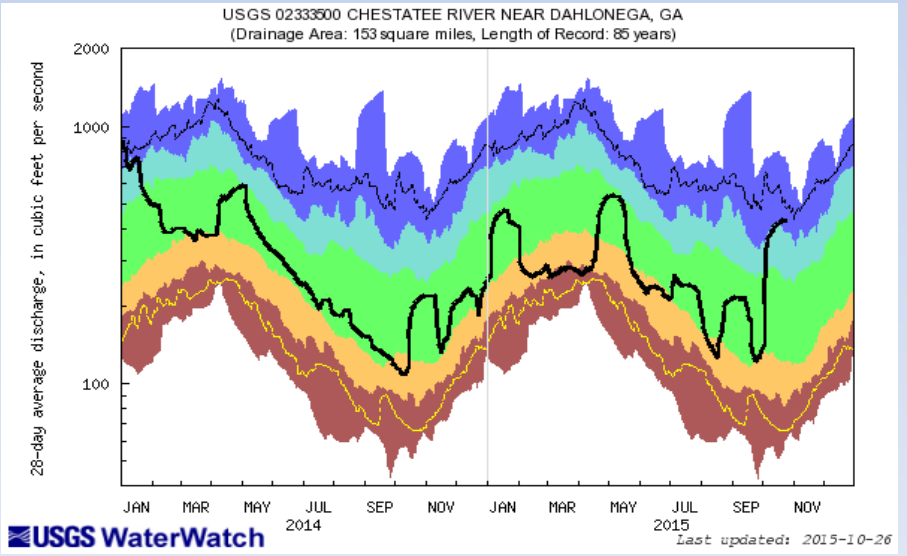
Lake Lanier Inflows

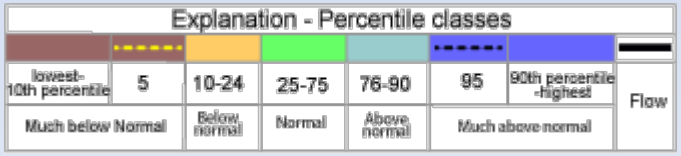
Chattahoochee near Cornelia (02331600)



http://waterwatch.usgs.gov

Chestatee near Dahlonega (02333500)



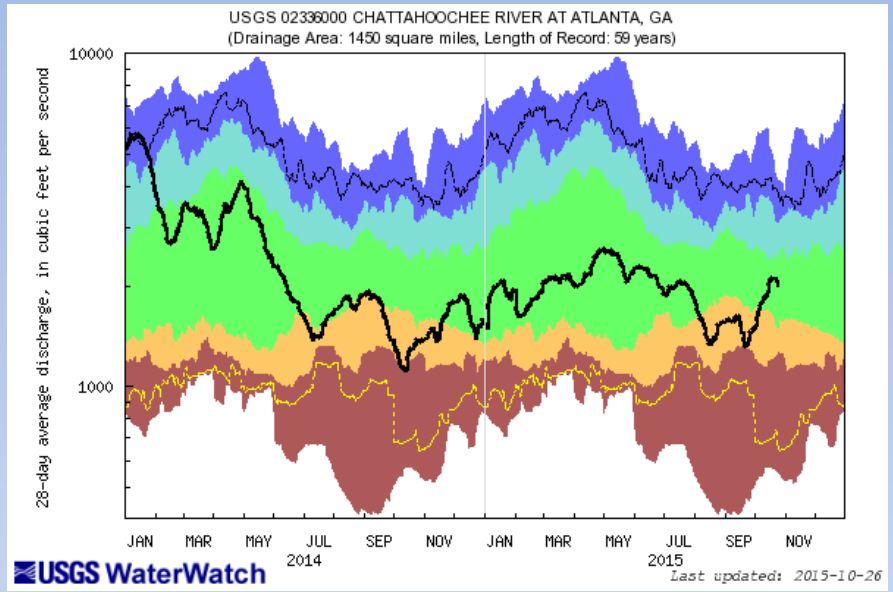


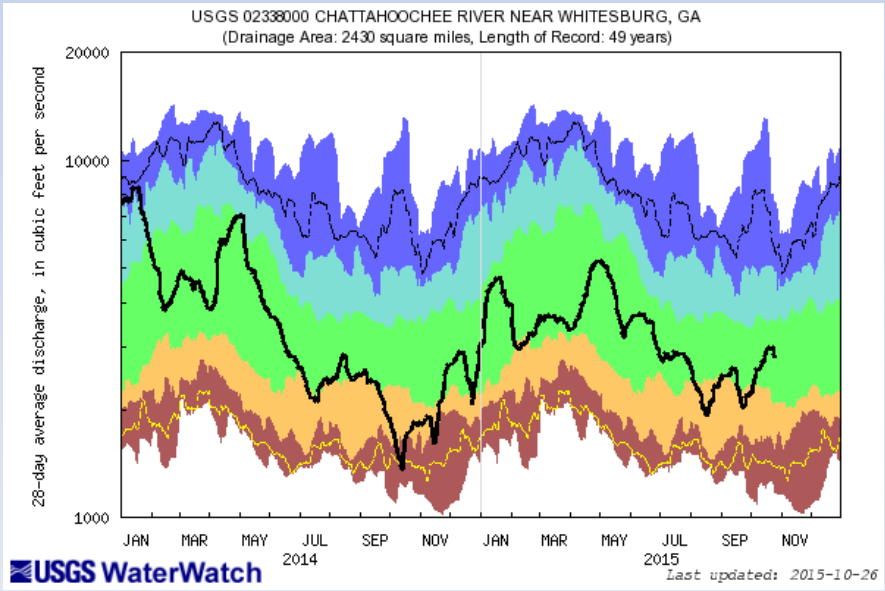
Current Streamflows

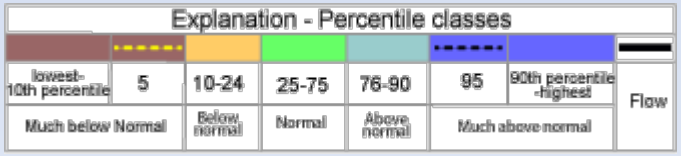
Chattahoochee at Atlanta (02336000)

http://waterwatch.usgs.gov

Chattahoochee near Whitesburg (02338000)

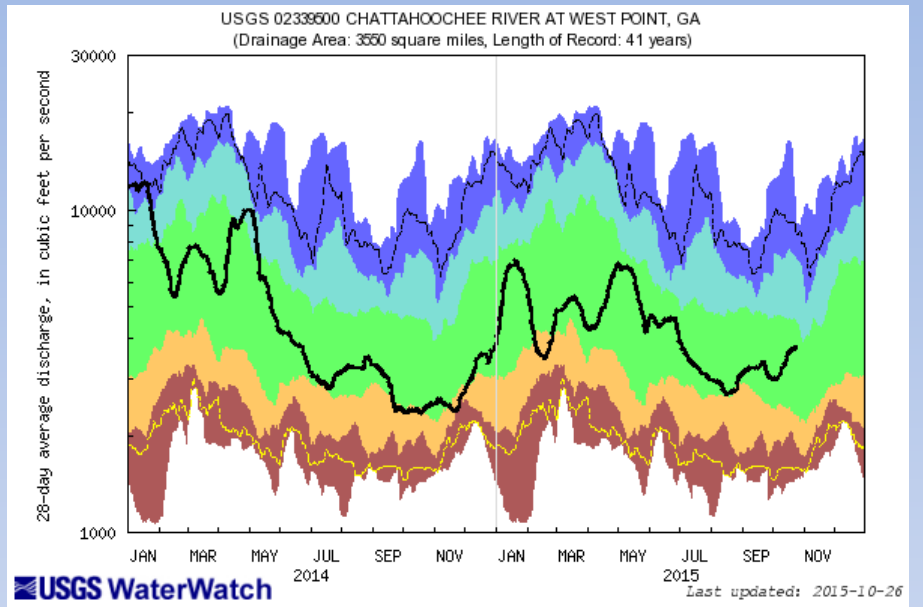






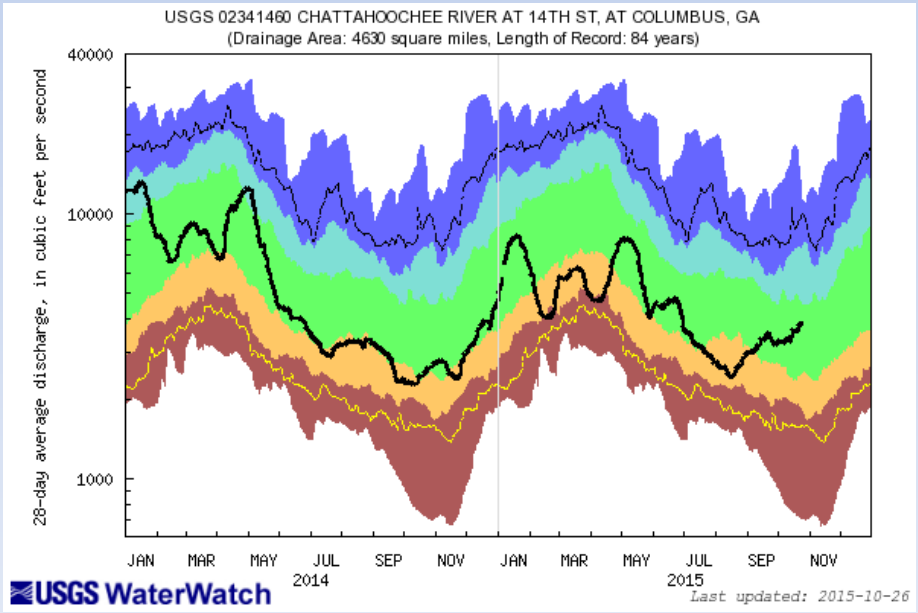
Current Streamflows

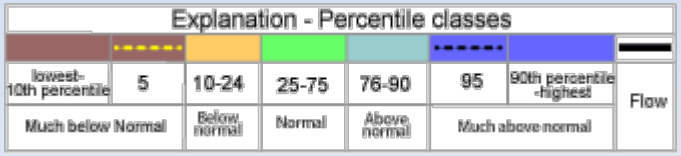
Chattahoochee at West Point (02339500)



http://waterwatch.usgs.gov

Chattahoochee at Columbus(02341460)



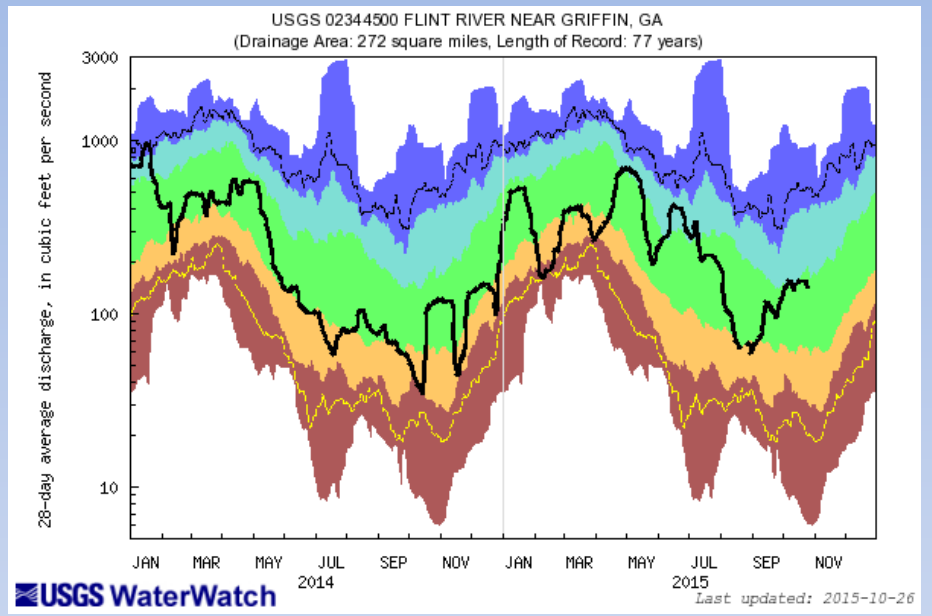


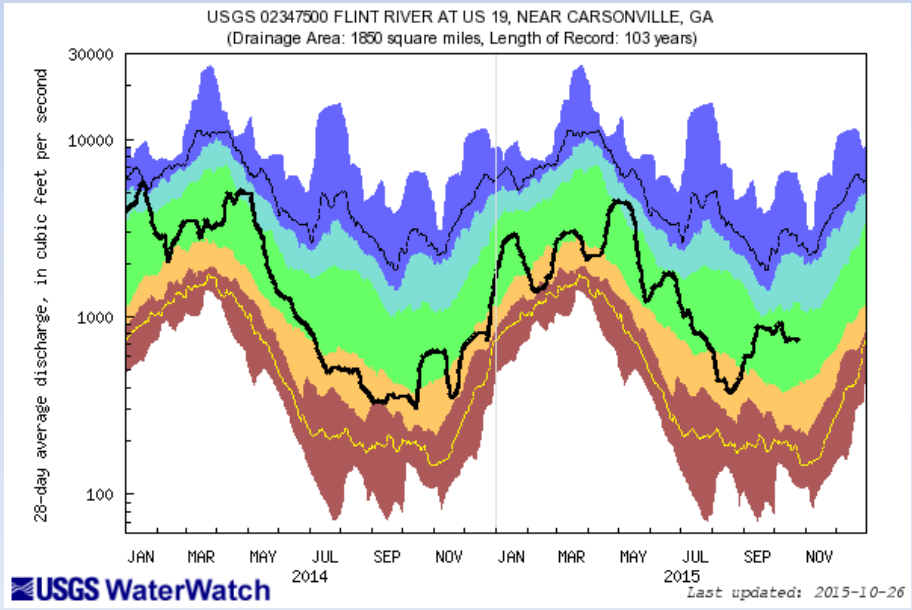
Current Streamflows

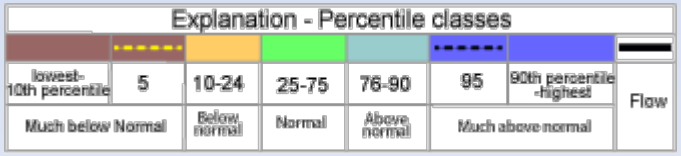
Flint River near Griffin (02344500)

http://waterwatch.usgs.gov

Flint River near Carsonville (02347500)





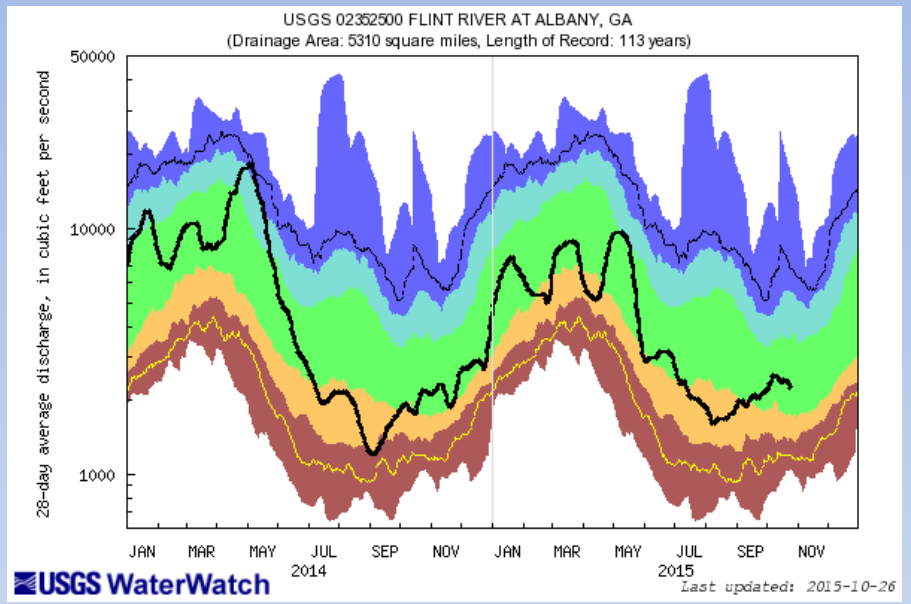


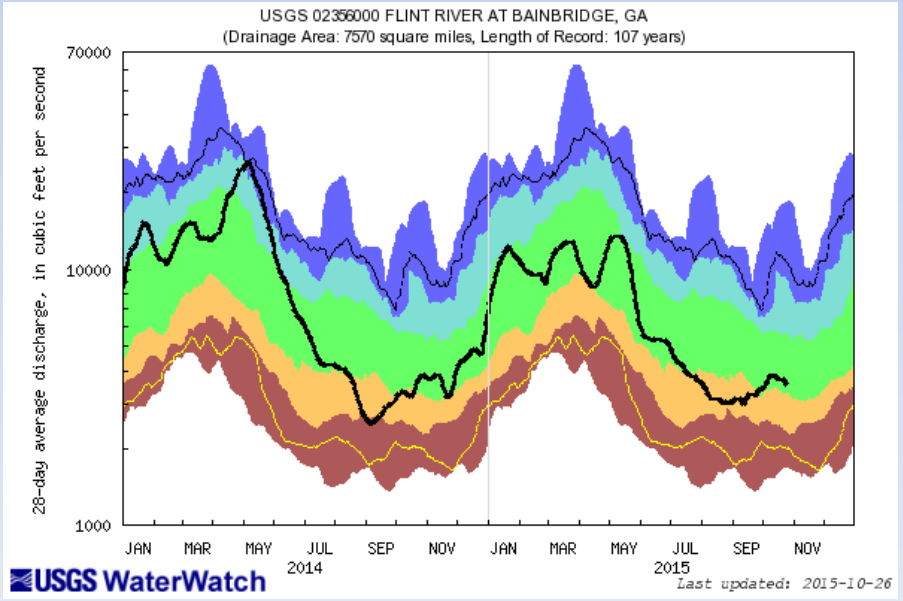
Current Streamflows

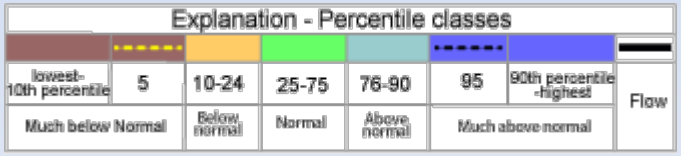
Flint River at Albany (02352500)

http://waterwatch.usgs.gov

Flint at Bainbridge (02356000)

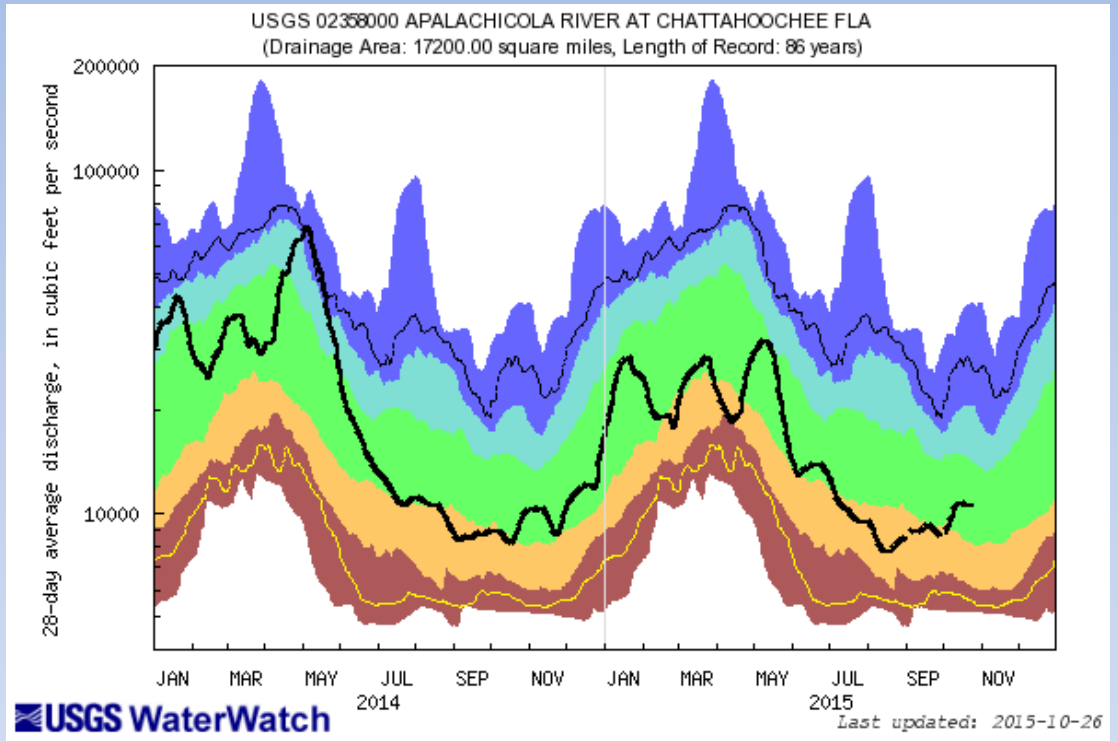


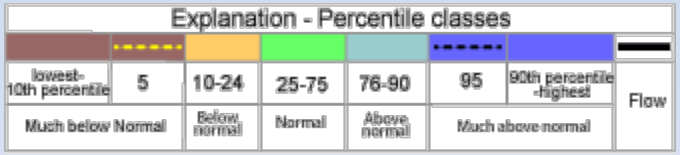




Streamflows

Apalachicola at Chattahoochee (02358000)





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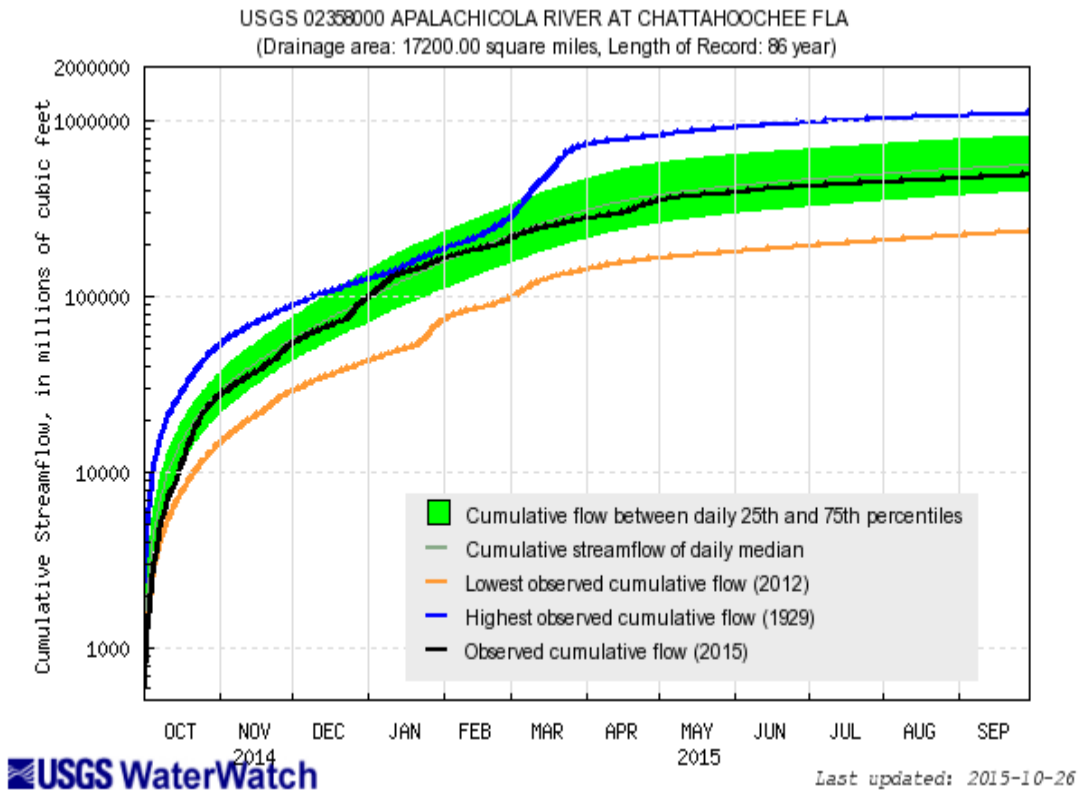
Streamflows

Apalachicola at Chattahoochee (02358000)



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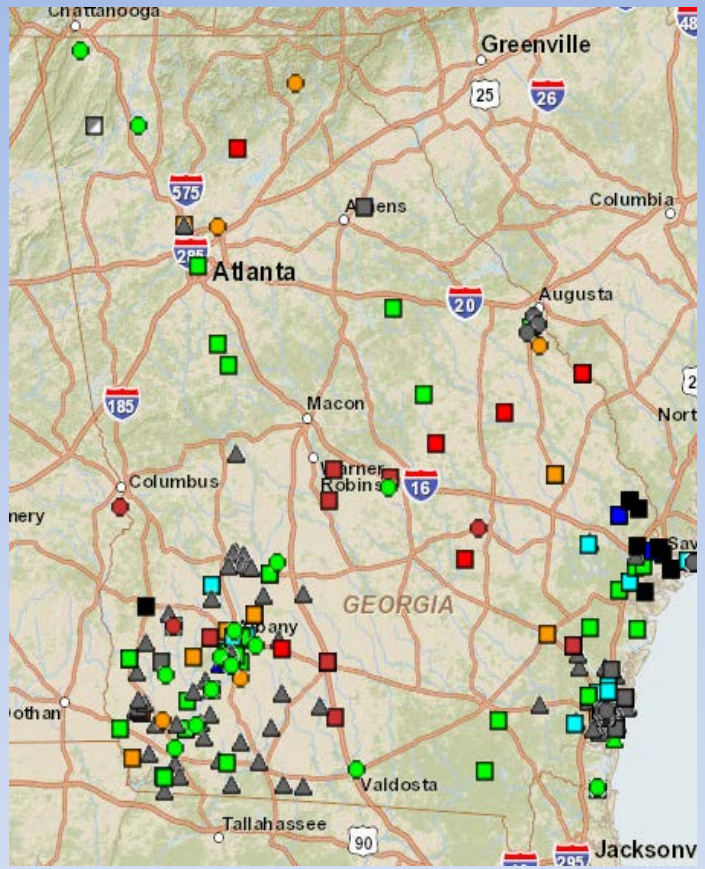
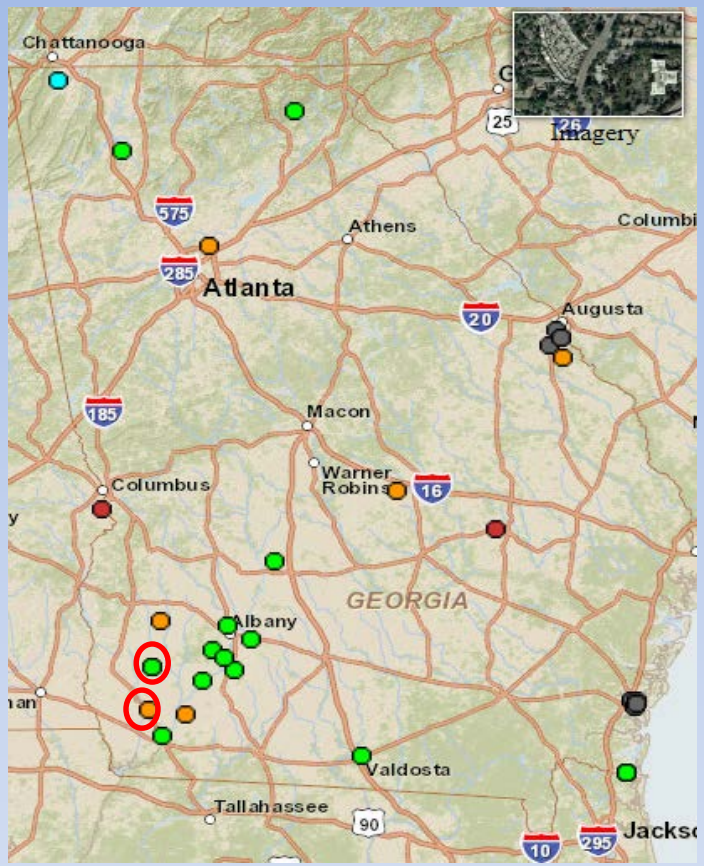
Groundwater Conditions



Previous brief



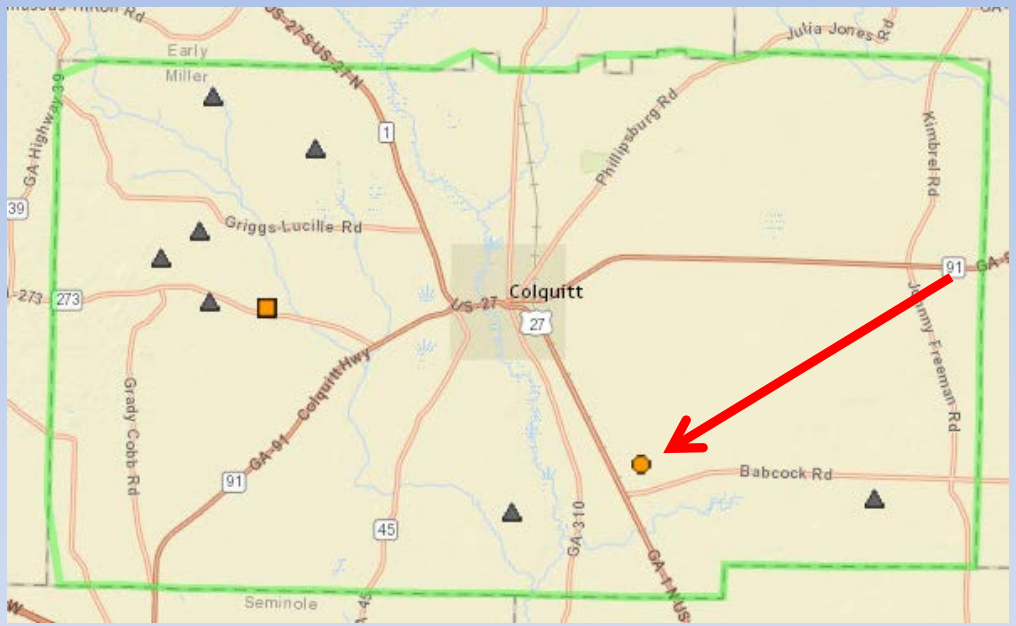
Current brief

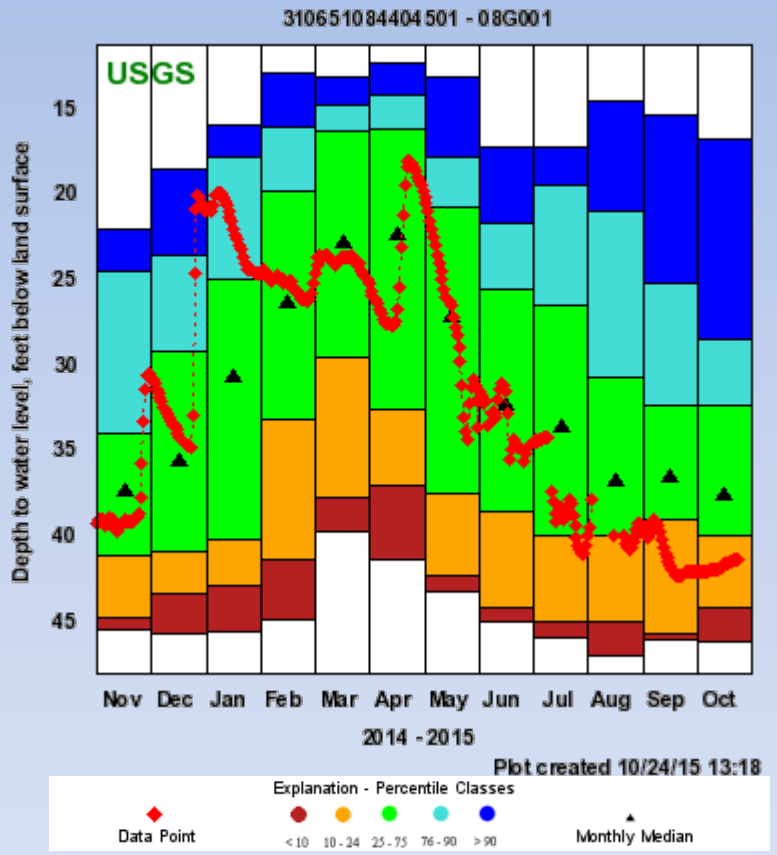
Explanation - Percentile classes (symbol color based on most recent measurement)							
Low	<10 Much Below Normal	10-24 Below Normal	25-75 Normal	76-90 Above Normal	>90 Much Above Normal	High	Not Ranked

Wells	Springs
Real-Time	
Continuous	
Periodic Measurements	

http://groundwaterwatch.usgs.gov

Groundwater Status – Miller County 08G001





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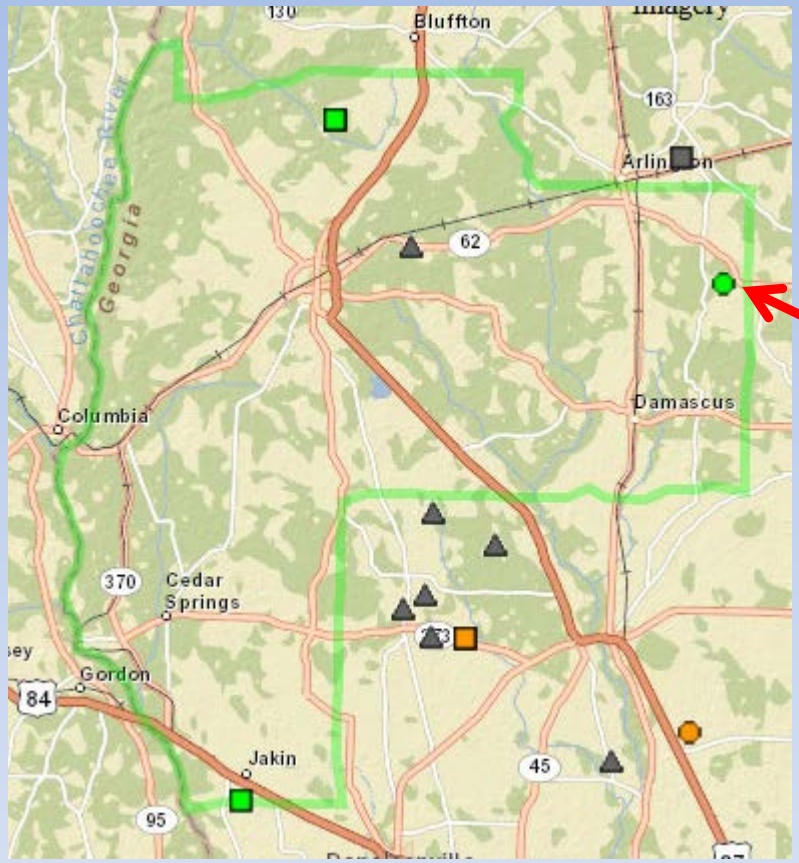
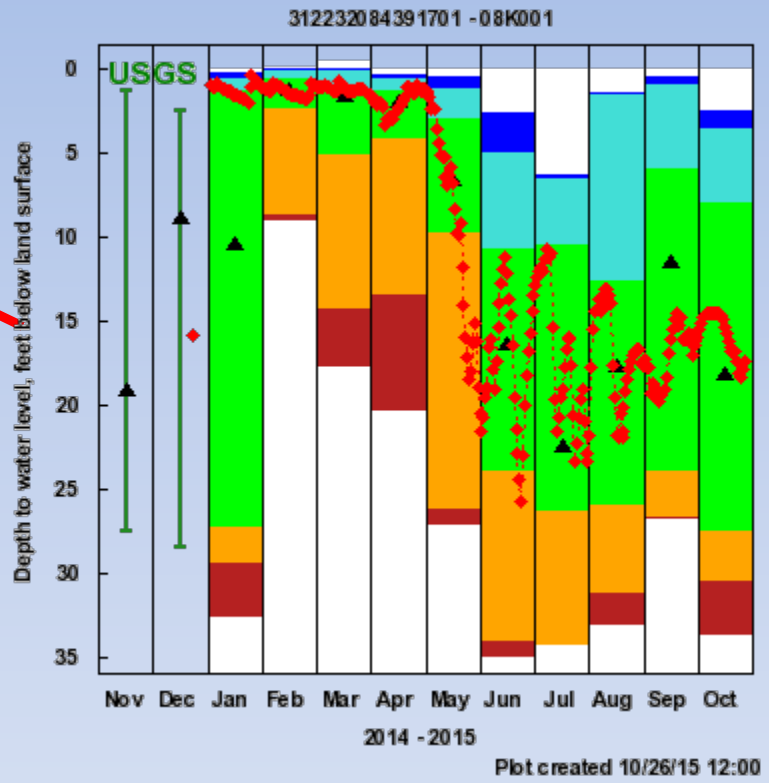
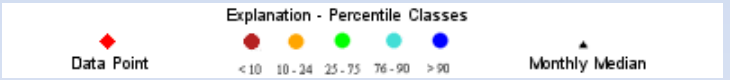
Wells	Springs
Real-Time	
Continuous	
Periodic Measurements	

(Upper Floridan Aquifer)

Groundwater Status – Early County 08K001







Explanation - Percentile classes (symbol color based on most recent measurement)							
Low	<10 Much Below Normal	10-24 Below Normal	25-75 Normal	76-90 Above Normal	>90 Much Above Normal	High	Not Ranked

Wells	Springs
Real-Time	
Continuous	
Periodic Measurements	

(Upper Floridan Aquifer)

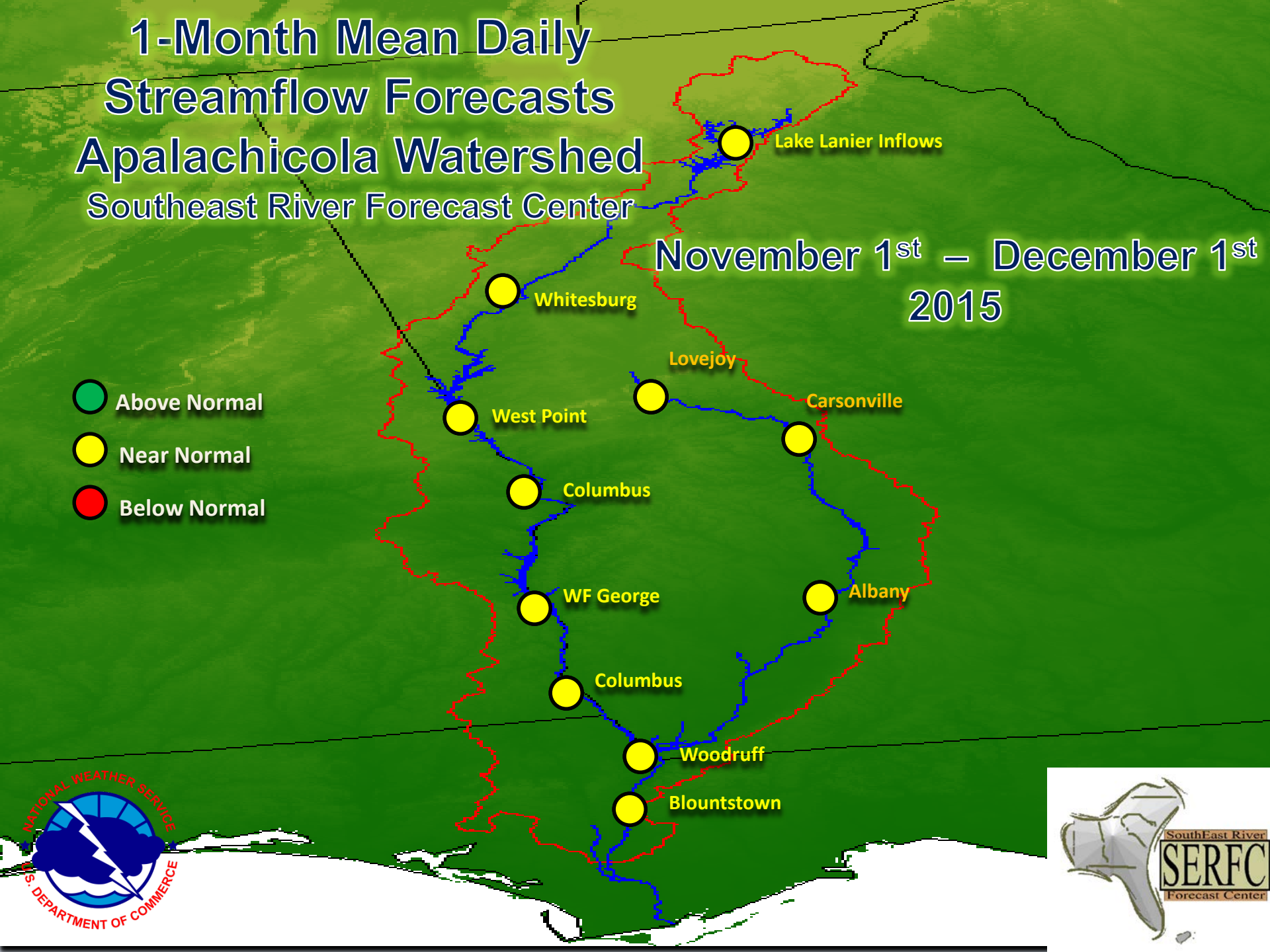
Streamflow Forecasts

Jeff Dobur

1-Month Mean Daily Streamflow Forecasts Apalachicola Watershed

Southeast River Forecast Center

November 1st – December 1st 2015

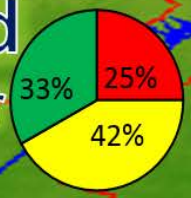


3-Month Mean Daily Streamflow Forecasts Apalachicola Watershed

Southeast River Forecast Center

This forecast method does not account for ongoing El Niño.

November 1st 2015 – January 31st 2016



Vinings

Whitesburg

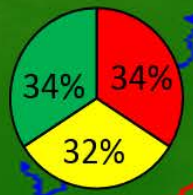
Lovejoy

West Point

Carsonville

Columbus

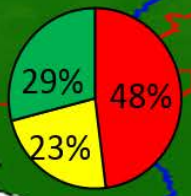
WF George



Albany

Columbus

Woodruff



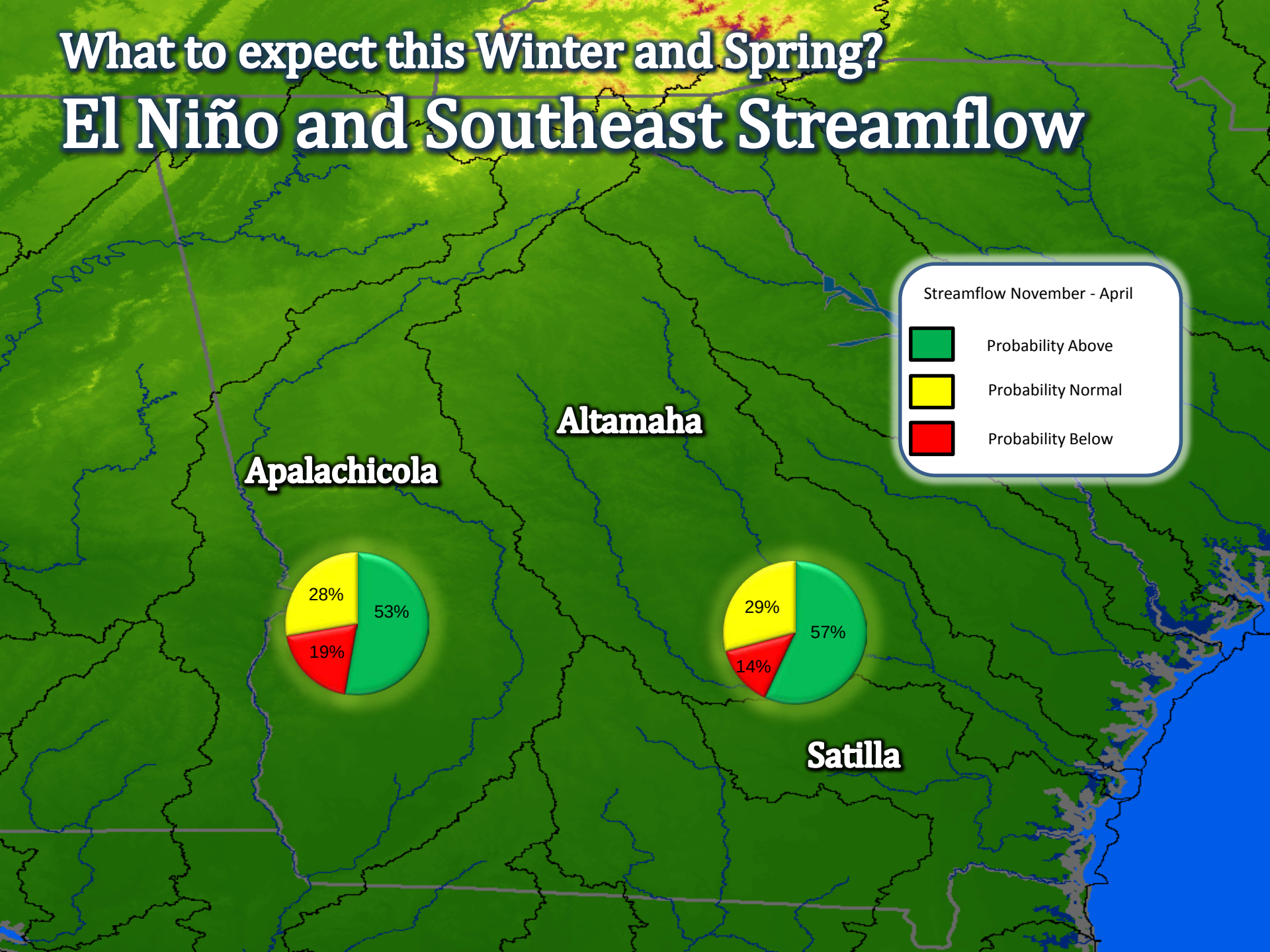
Blountstown

NATIONAL WEATHER SERVICE
U.S. DEPARTMENT OF COMMERCE

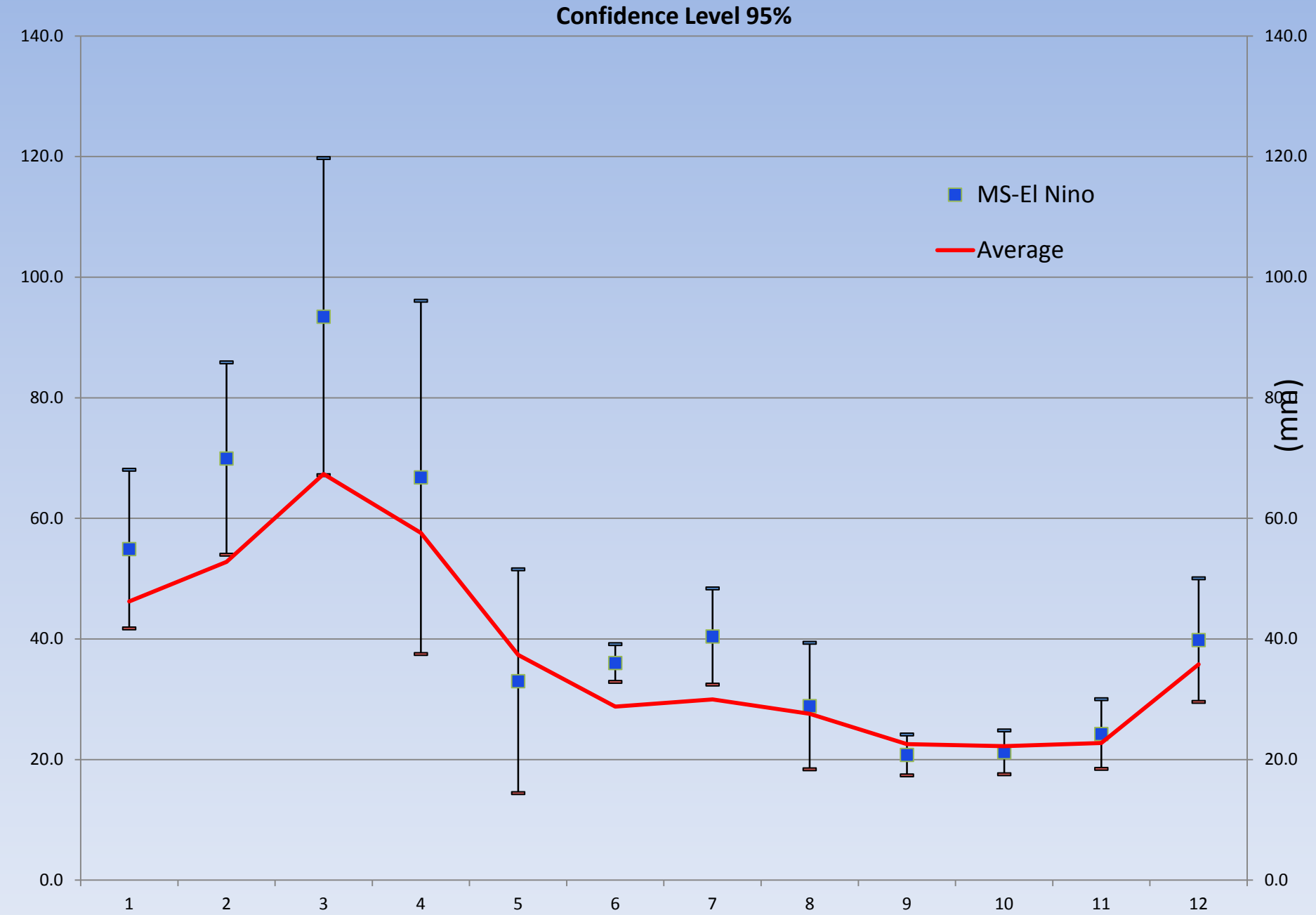
SouthEast River
SERFC
Forecast Center

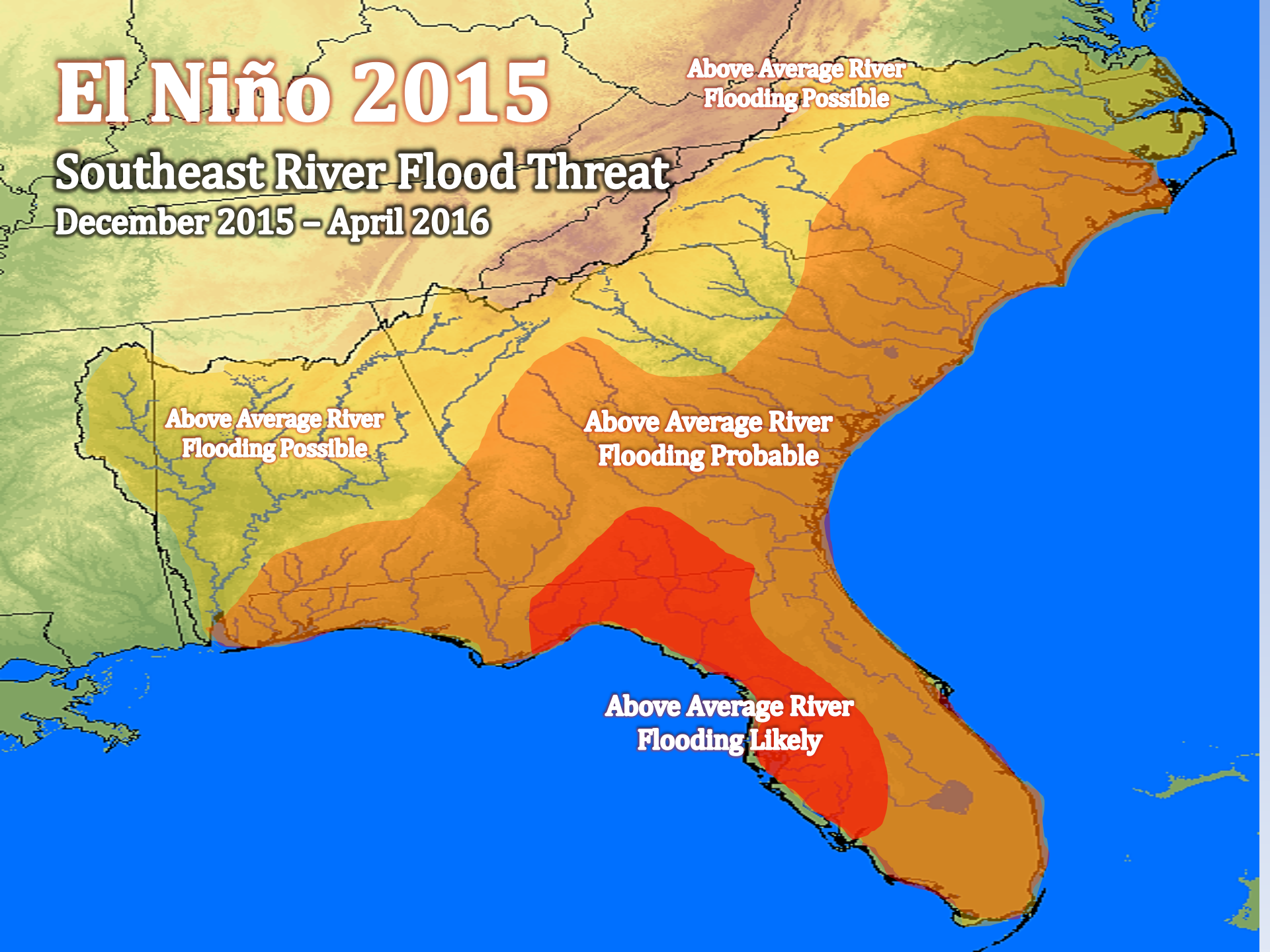
What to expect this Winter and Spring?

El Niño and Southeast Streamflow



APA – MS El Niño and Runoff from Streamflow




El Niño 2015
Southeast River Flood Threat
December 2015 – April 2016
Above Average River Flooding Possible
Above Average River Flooding Possible
Above Average River Flooding Probable
Above Average River Flooding Likely

Summary - David Zierden

- Dry for most of October, only fractions of an inch through 10/24.
- October is our dries month, deficits in the basin not that significant.
- Parts of the lower ACF designated as moderate drought by the *US Drought Monitor.*
- El Nino continues to strengthen, reaching “very strong” level (similar to 1982 and 1998).
- El Nino composites show much above normal winter rainfall across most of the ACF
- Streamflow analysis shows increased winter flows on the Apalachicola River during El Nino.
- CPC one-month and winter outlooks favor pattern of above normal rainfall for all the Southern U.S., strongest forecast possible for Florida.
- High vertical shear inhibiting hurricanes from impacting the U.S.
- Drought very likely to improve over the next few months.

Summary-Paul Ankcorn

- Realtime streamflows range from normal to below normal for most of the ACF basin.
- 28-day average streamflows into Lake Lanier are in the above normal to much above normal range.
- 28-day average streamflows are in the normal range for most of the Flint River basin.
- Groundwater levels are in the normal to below normal range in Southwest Georgia.

Summary - Jeff Dobur

- 1 Month Streamflow forecast - Near Normal
- 3 Month Streamflow forecast – Equal chances using ESP method. Hedge ENSO = higher flows.
- Pie Charts do not consider any future forecast such as ENSO, CPC or other. Based on soil conditions relative to normal in concert with historical precipitation.

Questions, Comments, Discussion

References

Speakers

David Zierden, FSU

Paul Ankcorn, USGS

Jeff Dobur, SERFC

Moderator

Eric Reutebuch, AU WRC

Additional information

- General drought information
  http://drought.gov
  http://www.drought.unl.edu
- General climate and El Niño information
  http://agroclimate.org/climate/
- Streamflow monitoring & forecasting
  http://waterwatch.usgs.gov
  http://www.srh.noaa.gov/serfc/
- Groundwater monitoring
  http://groundwaterwatch.usgs.gov

Thank you!

Next briefing

November 17, 2015, 1:00 pm EDT

Moderator: Eric Reutebuch

Slides from this briefing will be posted at

http://drought.gov/drought/content/regional-programs/regional-drought-webinars

Please send comments and suggestions to:

reuteem@auburn.edu