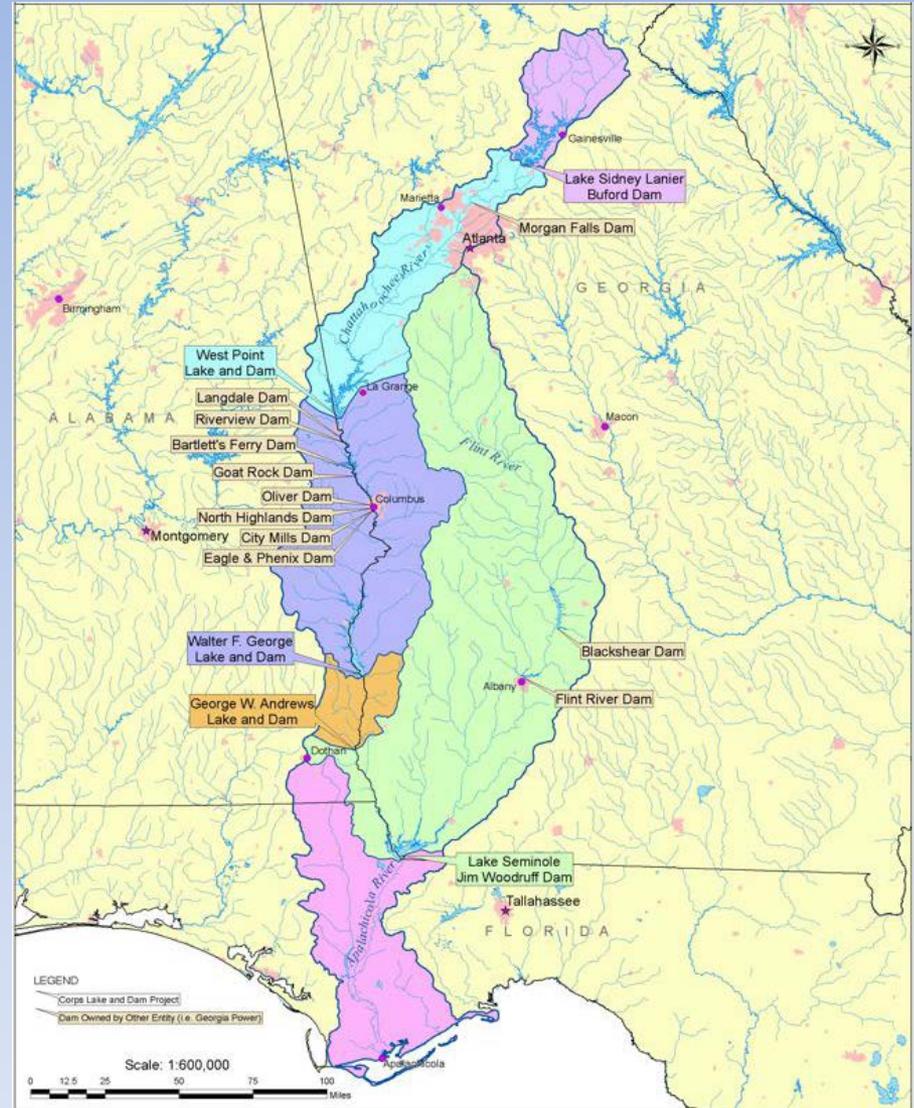
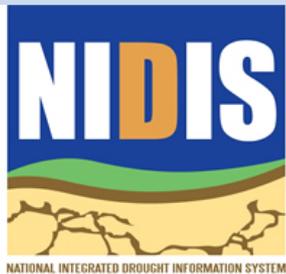


National Integrated Drought Information System

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

19 May 2015

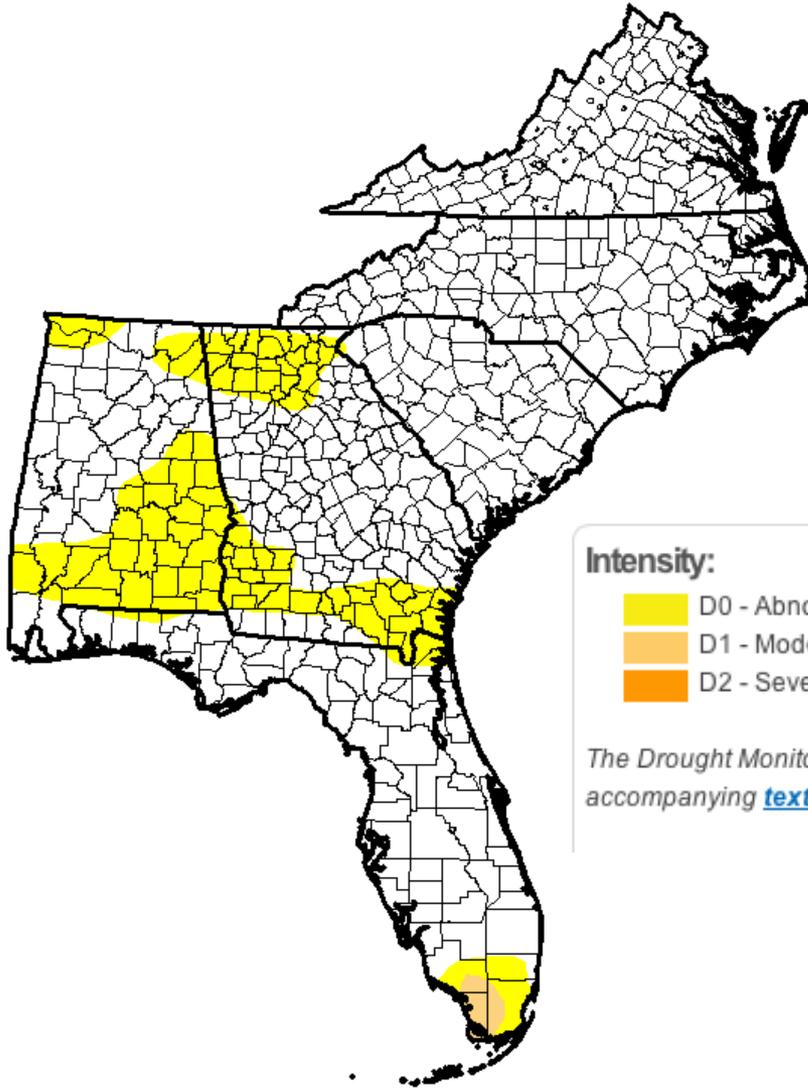


Outline

Welcome – Eric Reutebuch, AU Water Resources Center

- Current drought status, seasonal forecasts and outlooks – David Zierden, Florida Climate Center, FSU
- Streamflows and groundwater – Paul Ankorn, USGS
- Streamflow forecasts – Todd Hamill, SERFC
- ACF reservoir conditions – Bailey Crane, United States Army Corps of Engineers
- Summary and Discussion

Current drought status



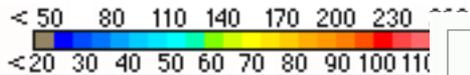
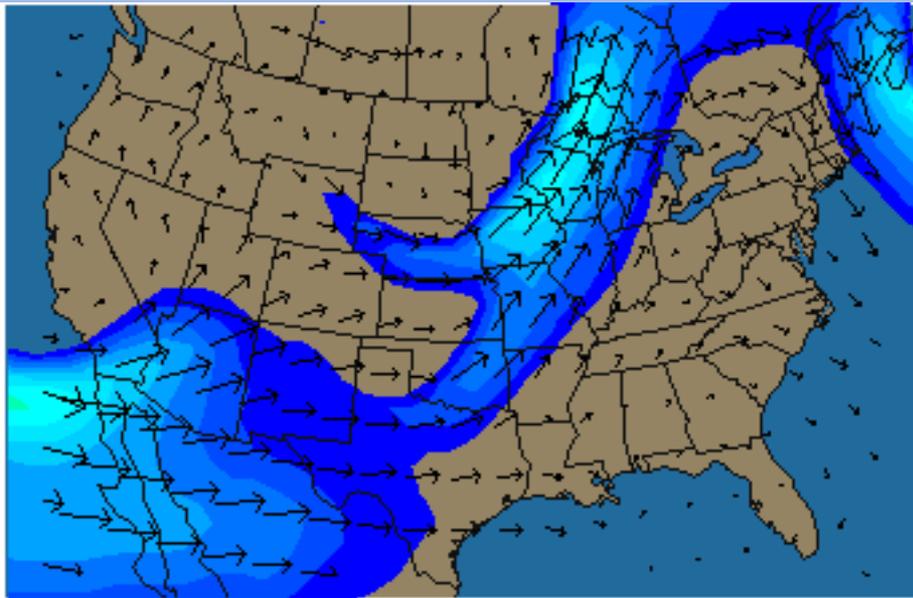
Intensity:

-  D0 - Abnormally Dry
-  D1 - Moderate Drought
-  D2 - Severe Drought

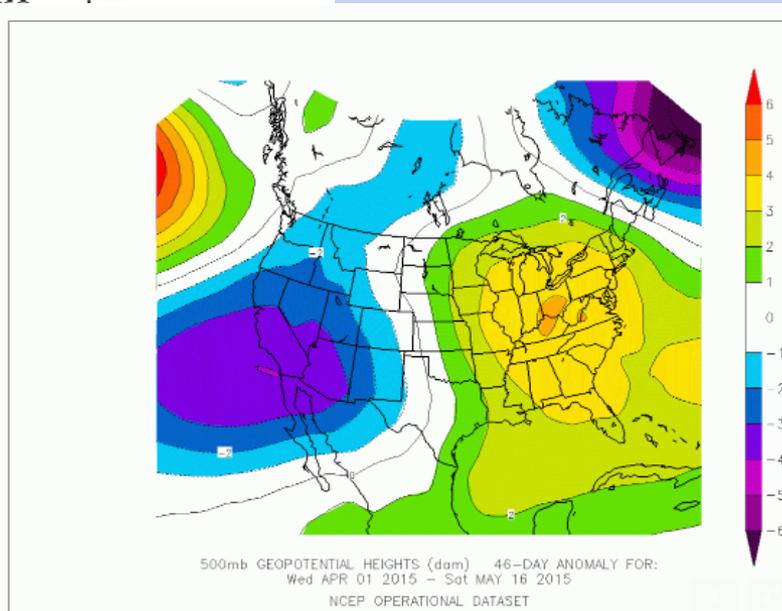
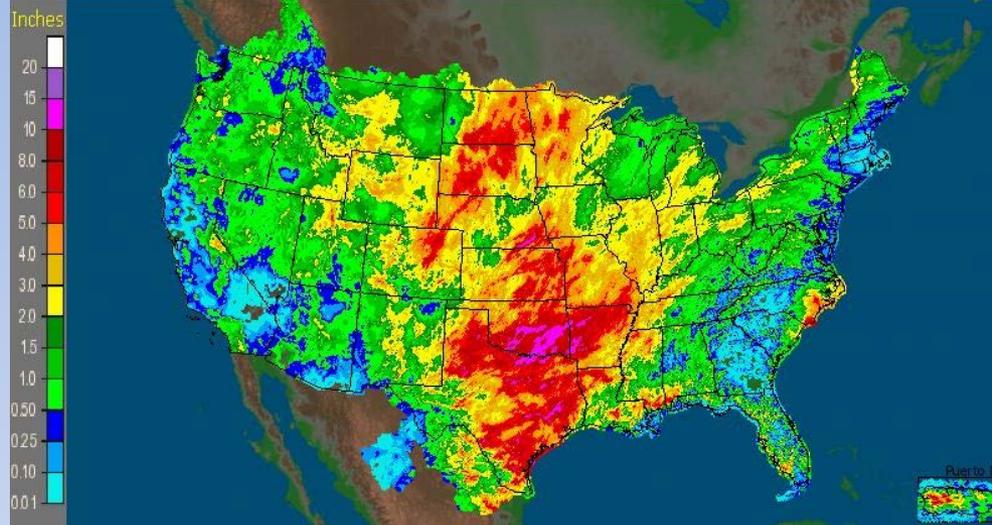
-  D3 - Extreme Drought
-  D4 - Exceptional Drought

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

Large Scale Pattern (May)



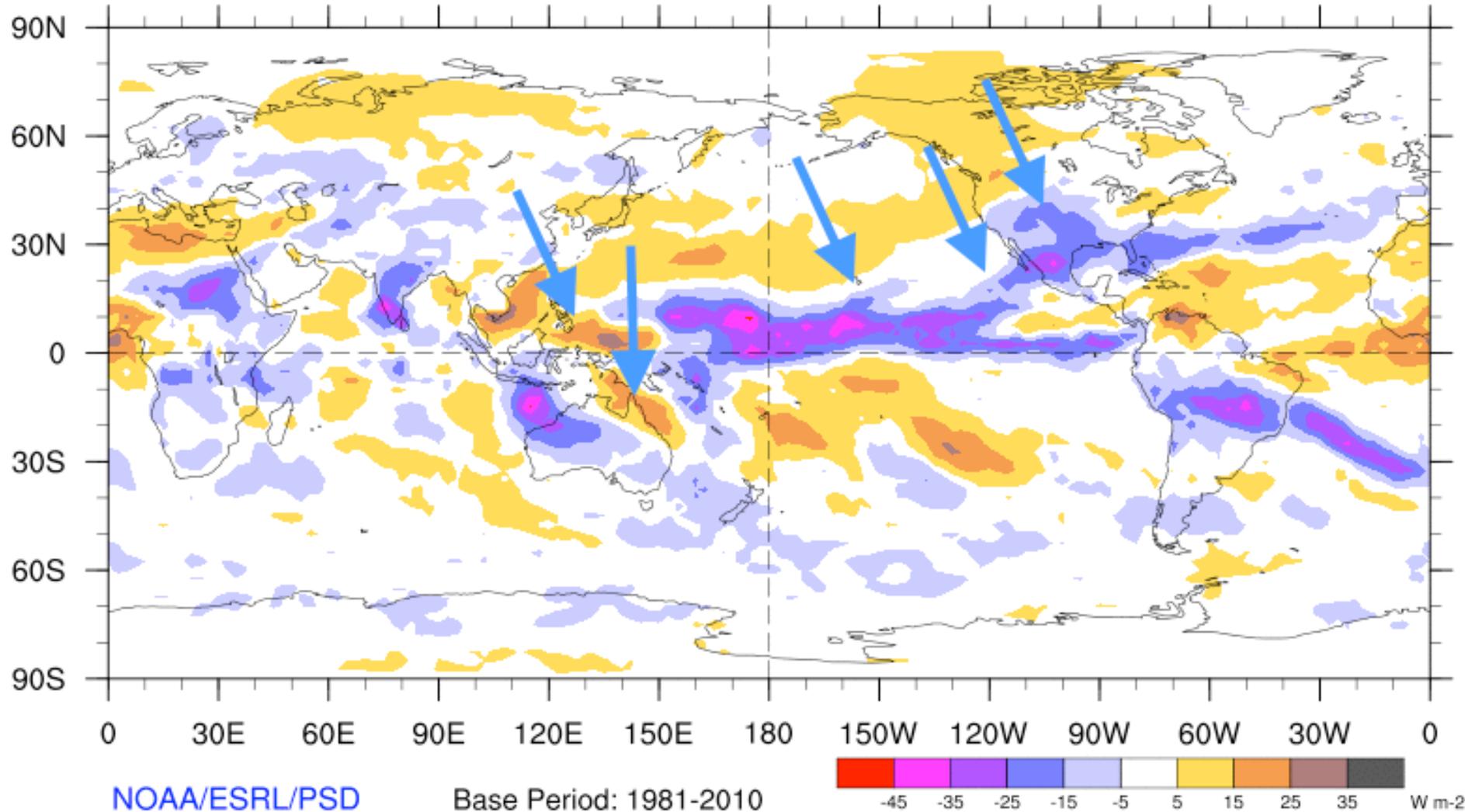
CONUS + Puerto Rico: Current 14-Day Observed Precipitation
Valid at 5/18/2015 1200 UTC- Created 5/18/15 17:56 UTC



Outgoing Longwave Radiation

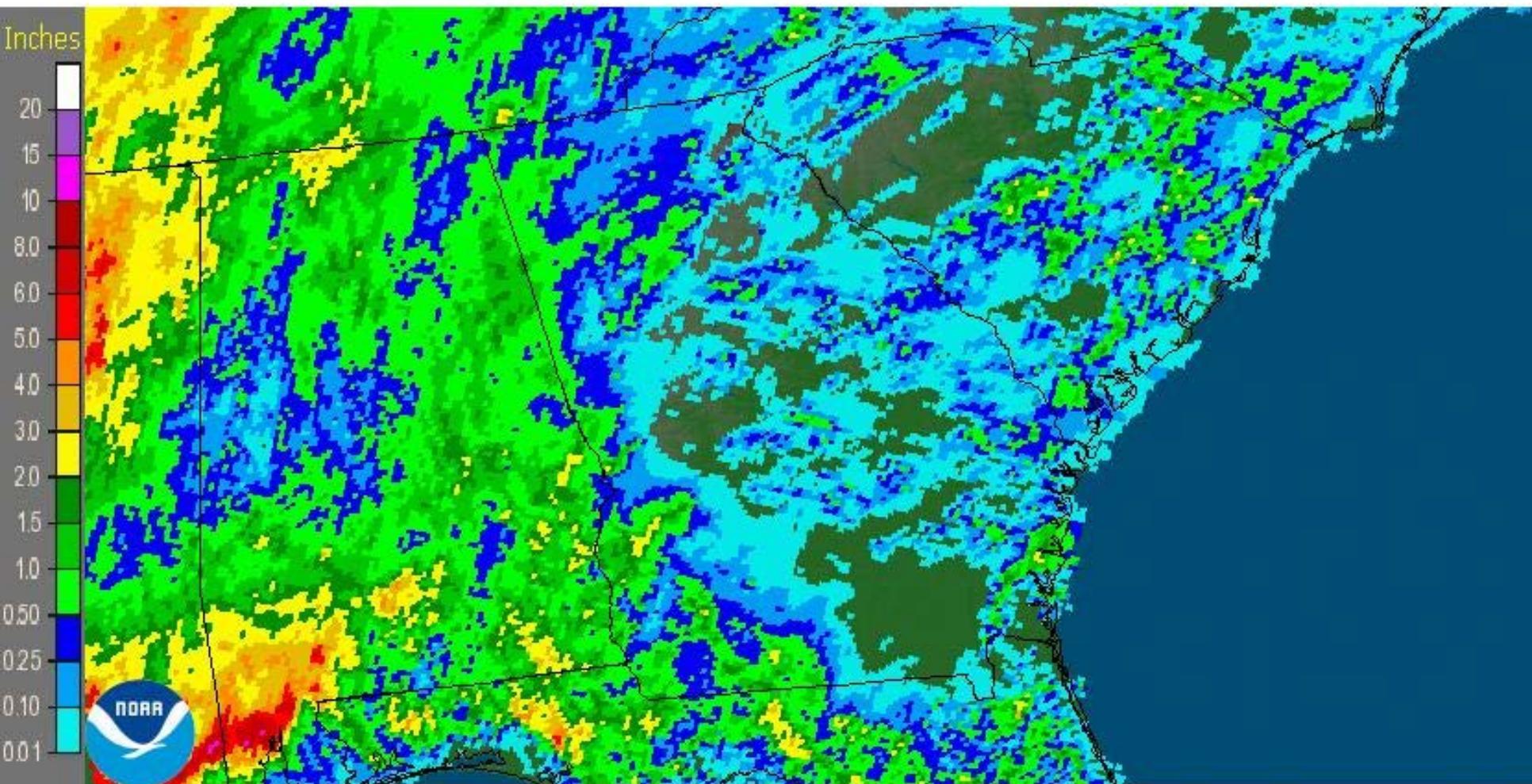
30-Day Average OLR Anomaly

2015/04/17 - 2015/05/16



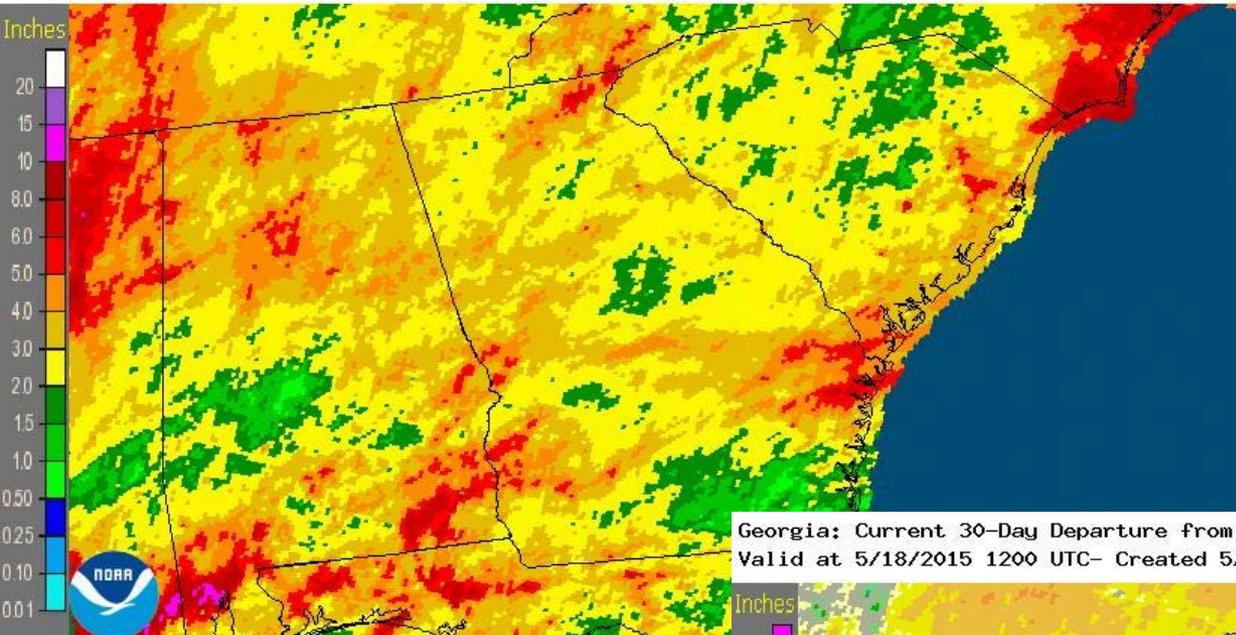
Rainfall – Last 7 Days

Georgia: Current 7-Day Observed Precipitation
Valid at 5/18/2015 1200 UTC– Created 5/18/15 16:29 UTC

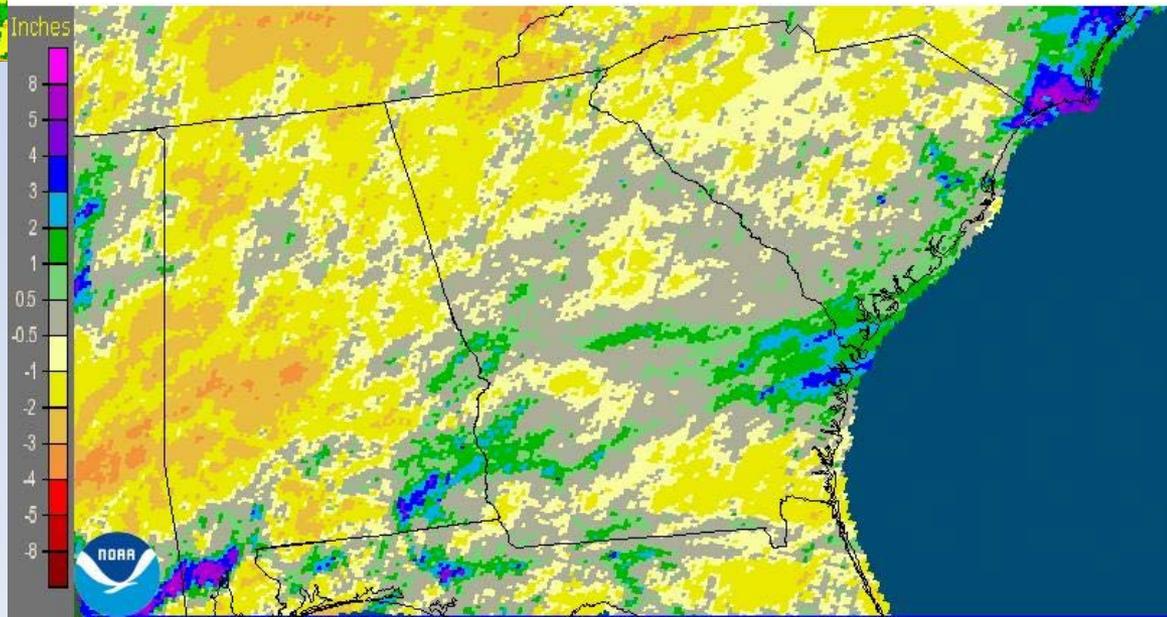


30-Day Rainfall

Georgia: Current 30-Day Observed Precipitation
Valid at 5/18/2015 1200 UTC- Created 5/18/15 16:31 UTC



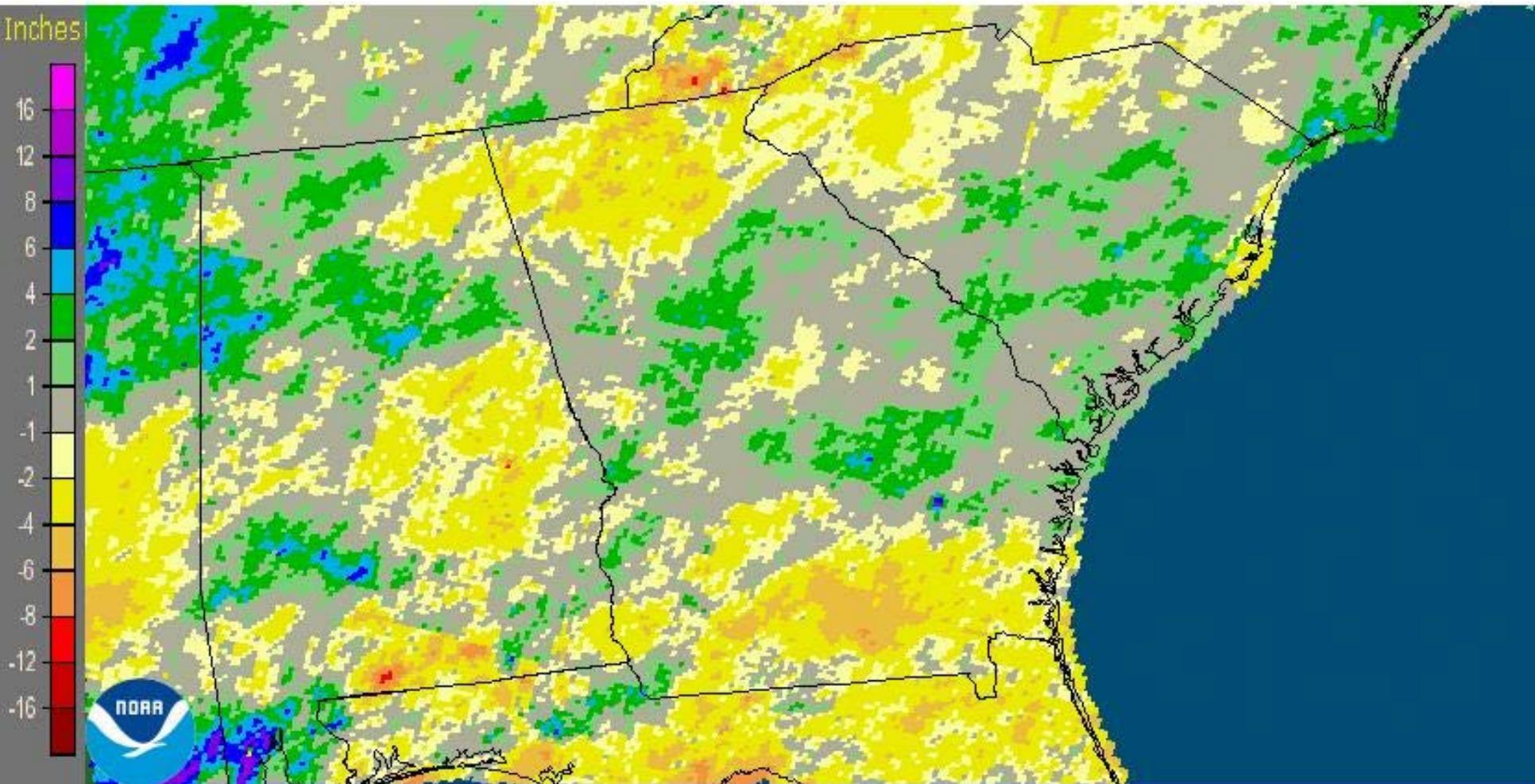
Georgia: Current 30-Day Departure from Normal Precipitation
Valid at 5/18/2015 1200 UTC- Created 5/18/15 16:33 UTC



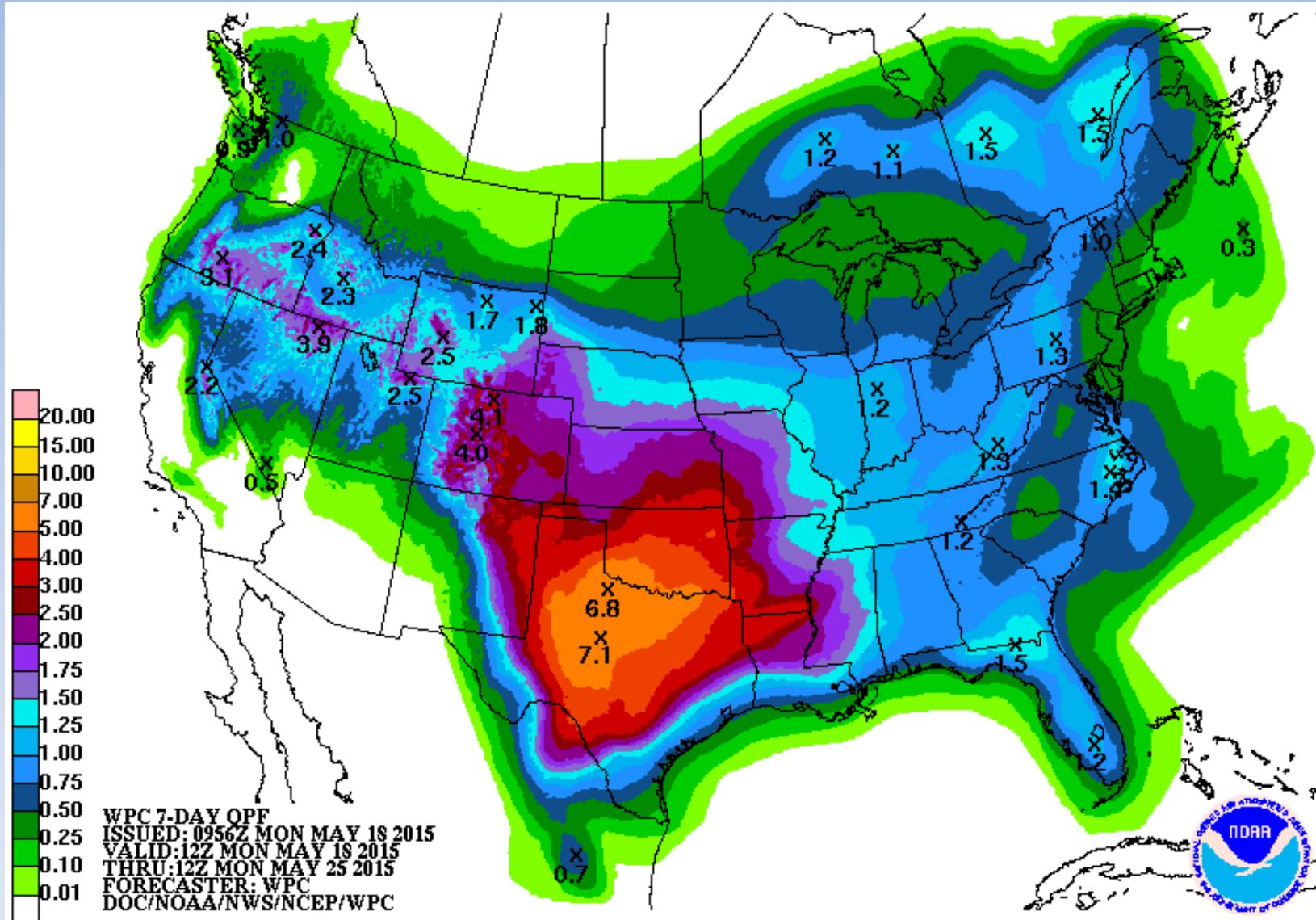
90-day Rainfall Departures

Georgia: Current 90-Day Departure from Normal Precipitation

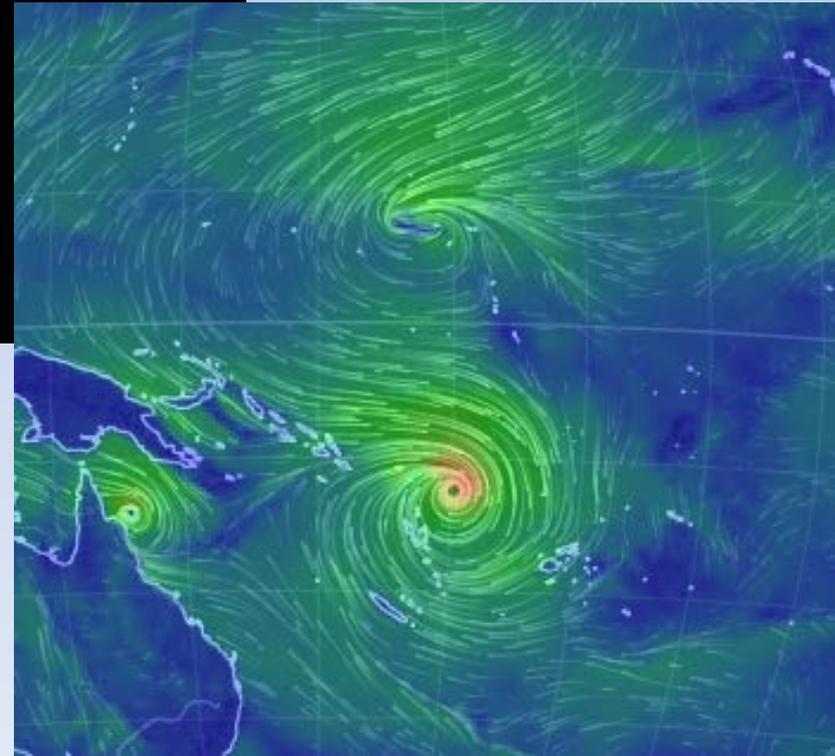
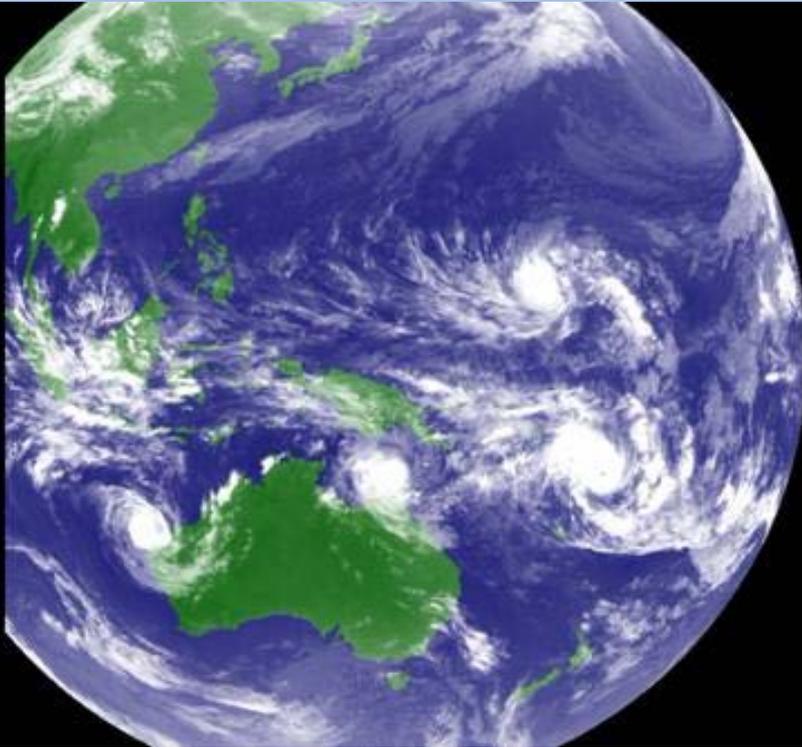
Valid at 5/18/2015 1200 UTC- Created 5/18/15 16:35 UTC



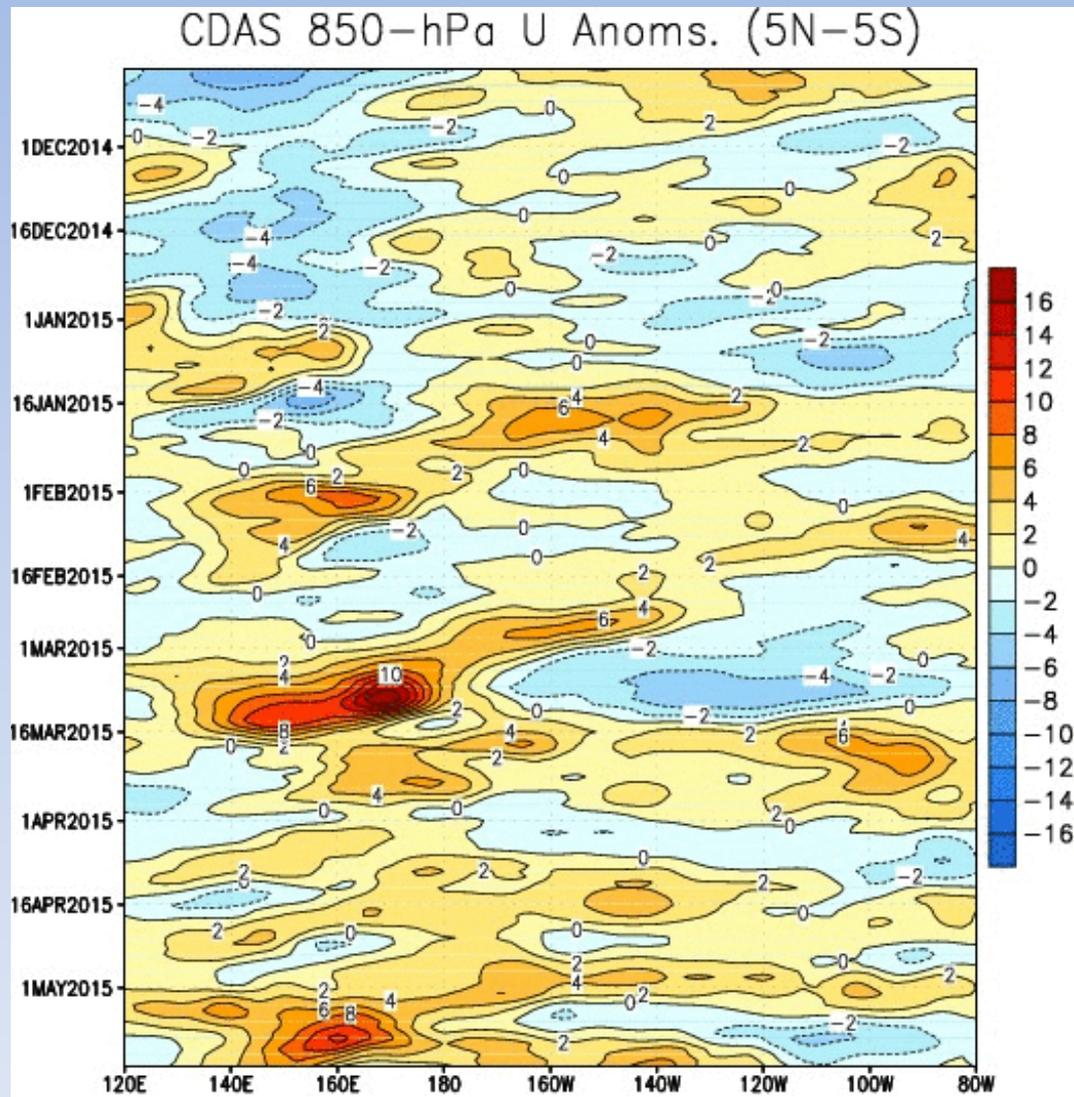
7-Day Precipitation Forecast



Tropical Cyclone Pair

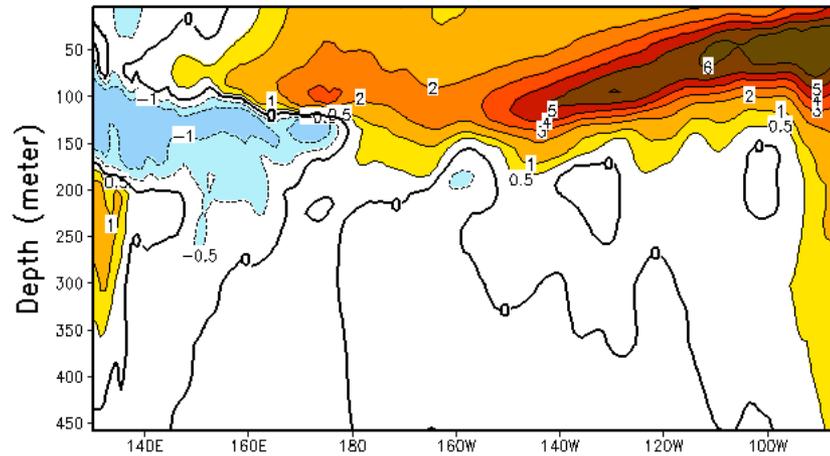


Winds over the Pacific

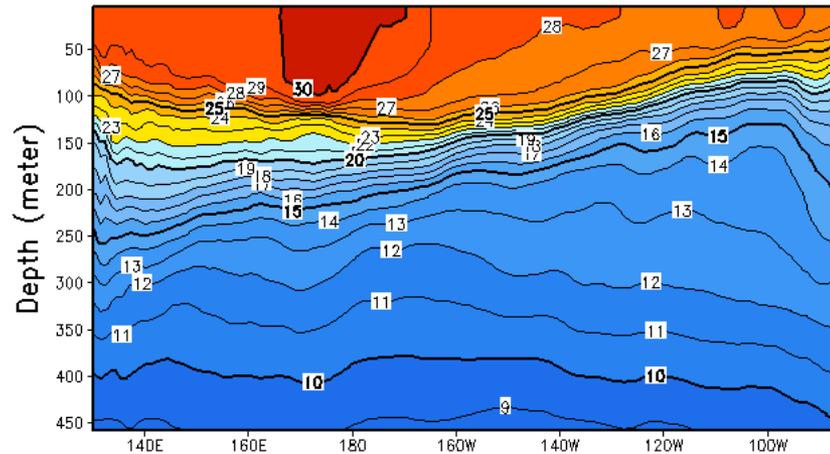


Subsurface Temperatures

Equatorial Temperature Anom ($^{\circ}\text{C}$), May 13 2015

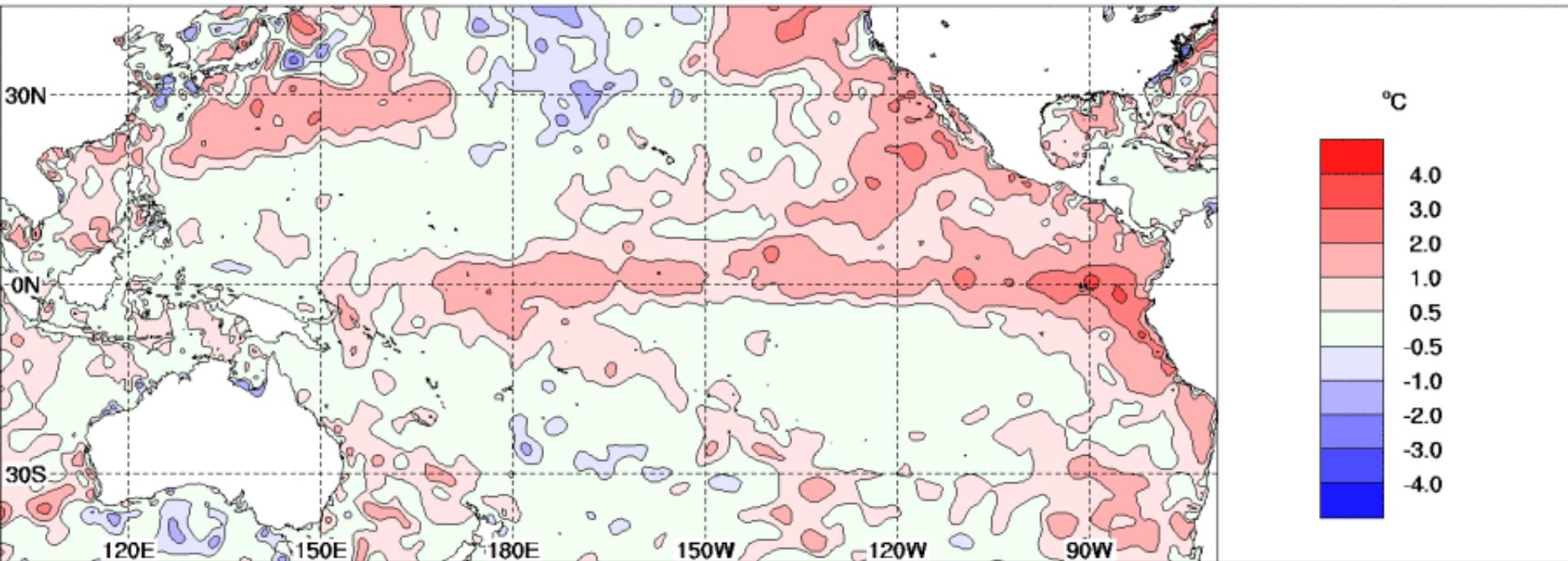


Equatorial Temperature ($^{\circ}\text{C}$), May 13 2015

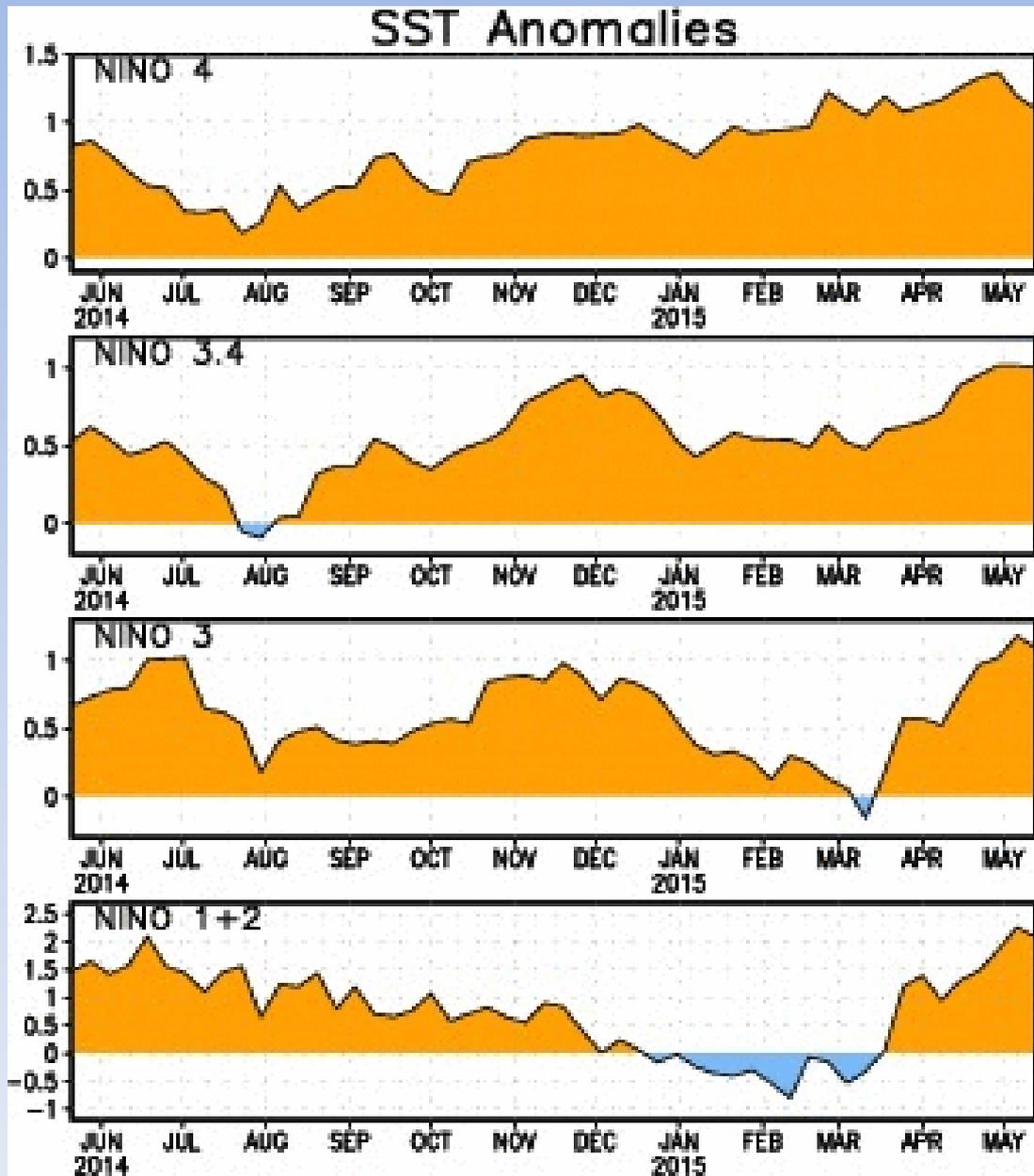


Current SST Anomalies

SSTA 1.0X1.0 NMOC OCEAN ANOMALIES (C) 20150504 20150510



Nino Indices

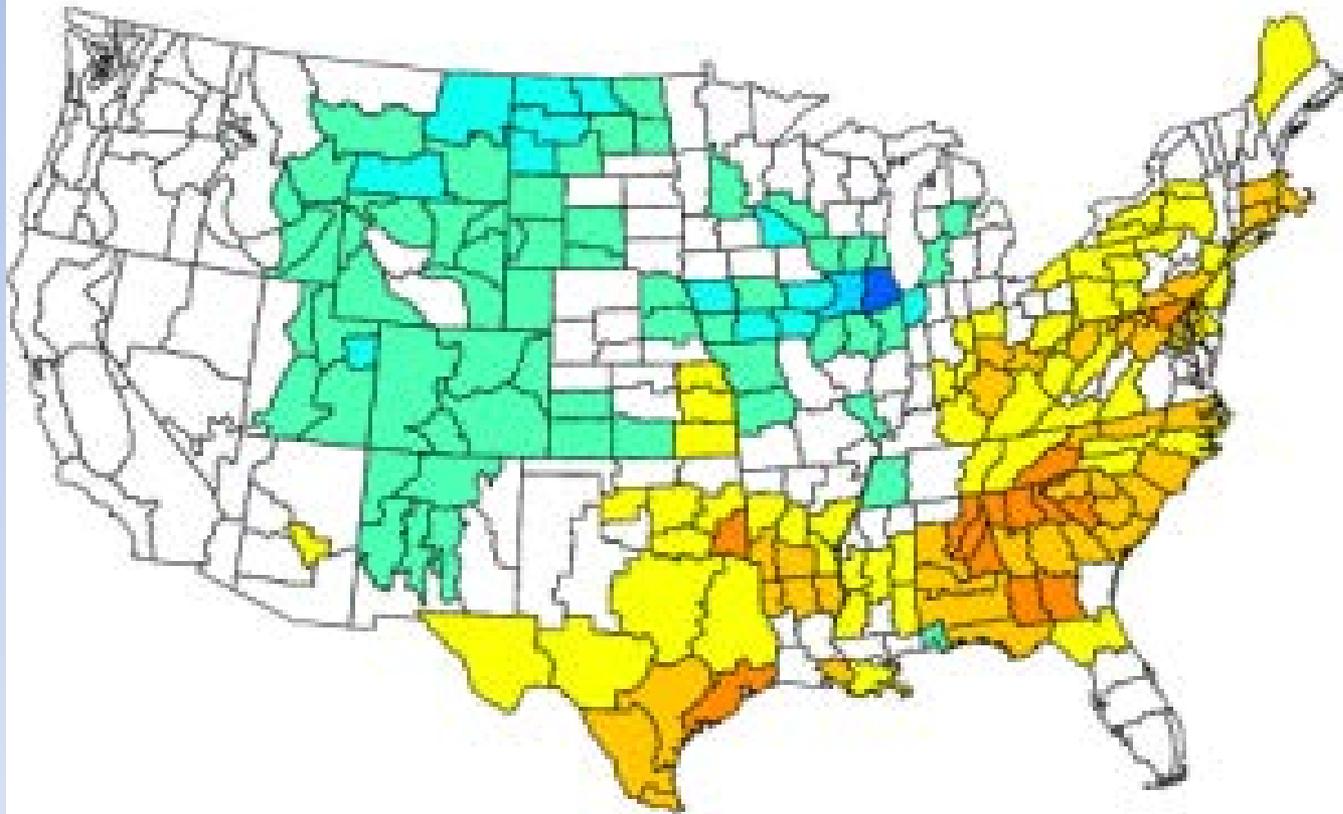


Strong/Early El Nino's

NOAA/NCDC Climate Division Composite Precipitation Anomalies (in)

Jul to Aug 1957, 1965, 1969, 1972, 1982, 1987, 1997, 2014

Versus 1950–1995 Longterm Average

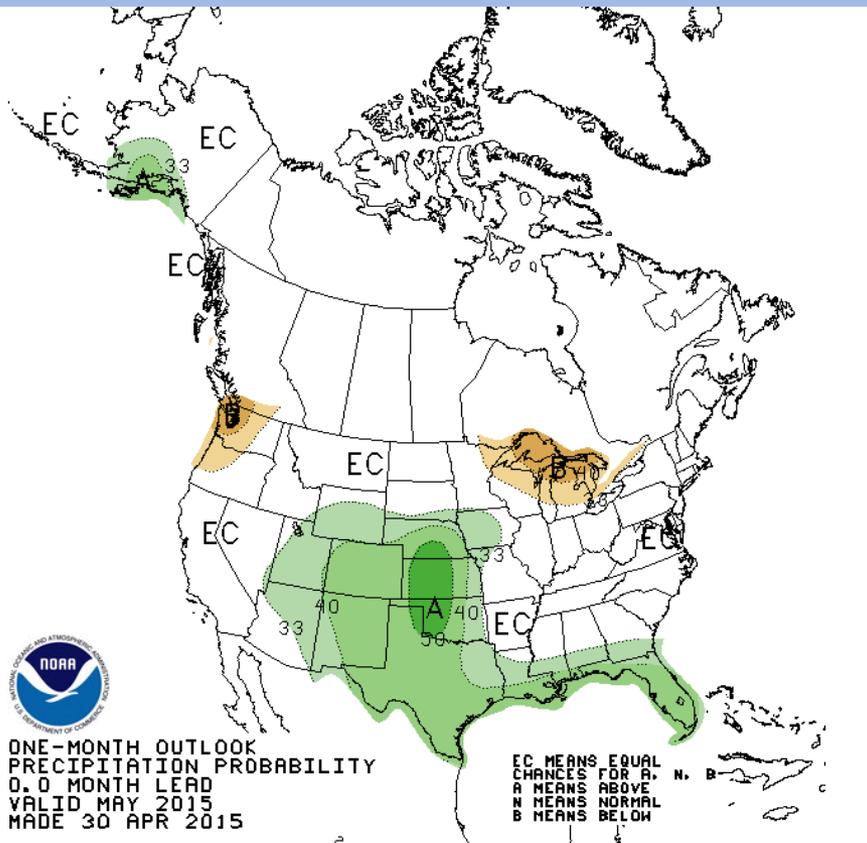


NOAA/ESRL PSD and CRES-CU

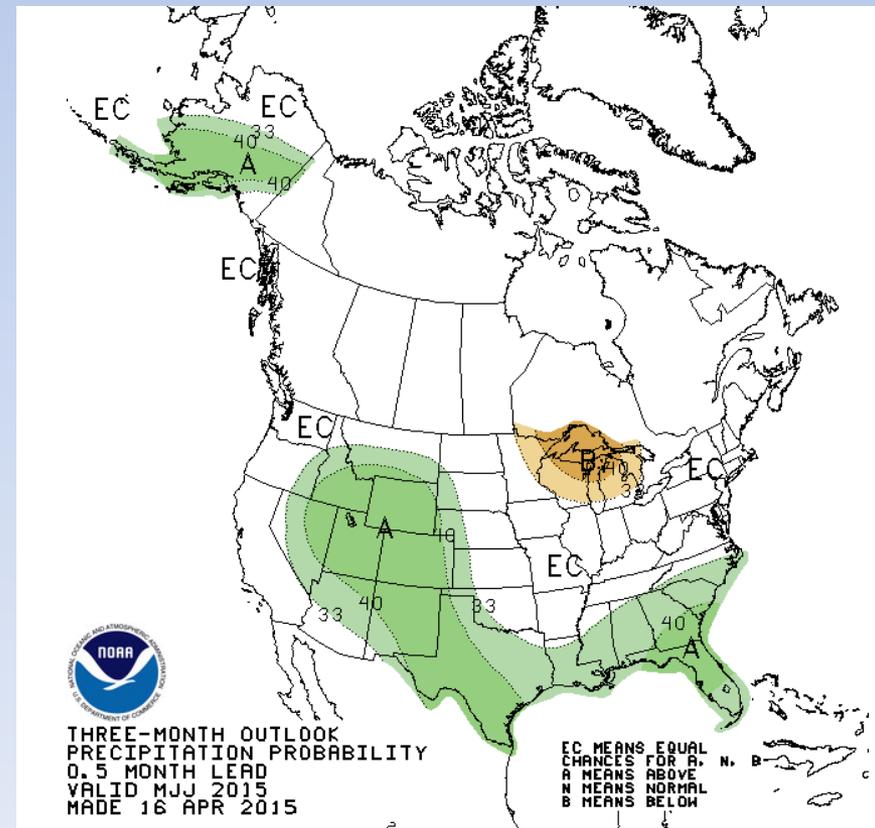


1-3 Month Precipitation Outlook

1 Month

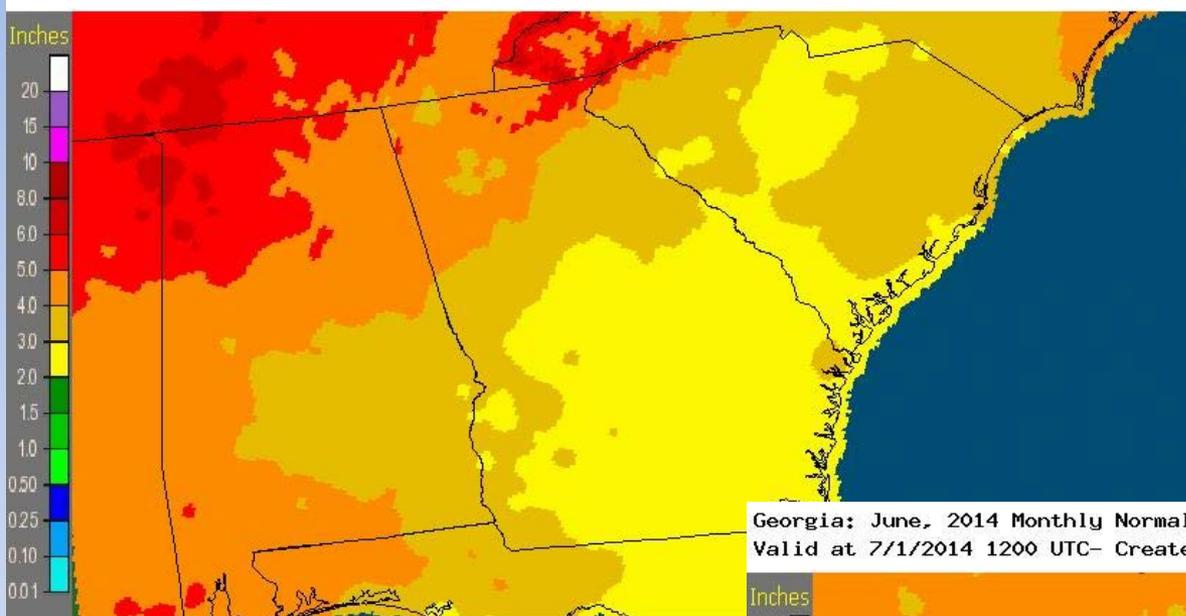


3 Month

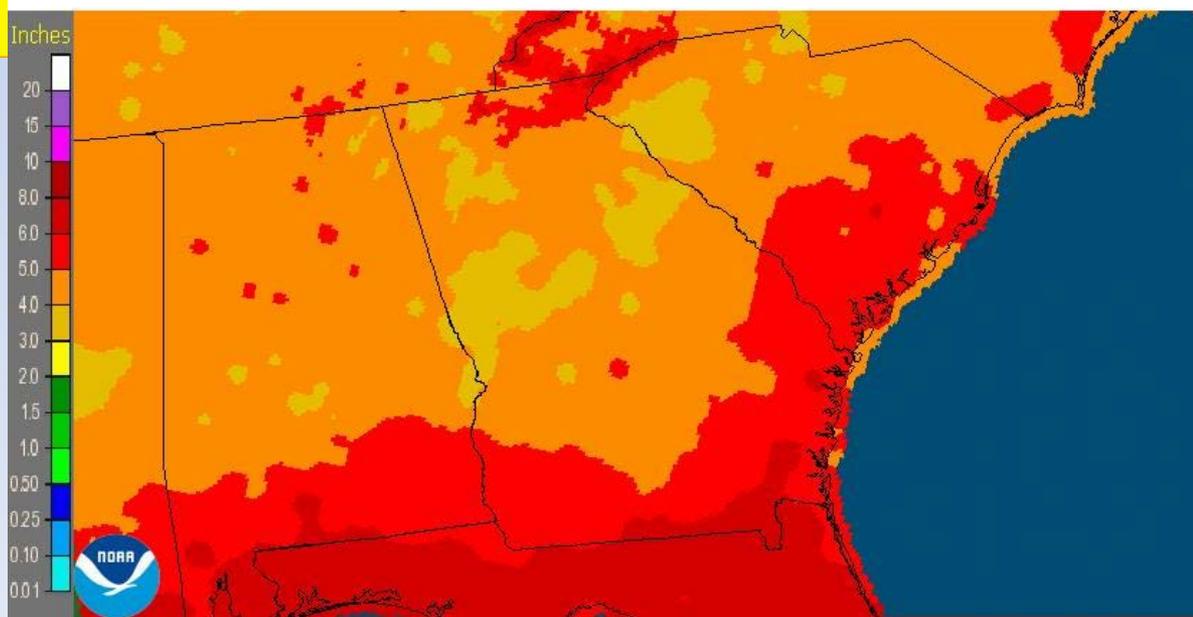


Spring Rainfall Climatology

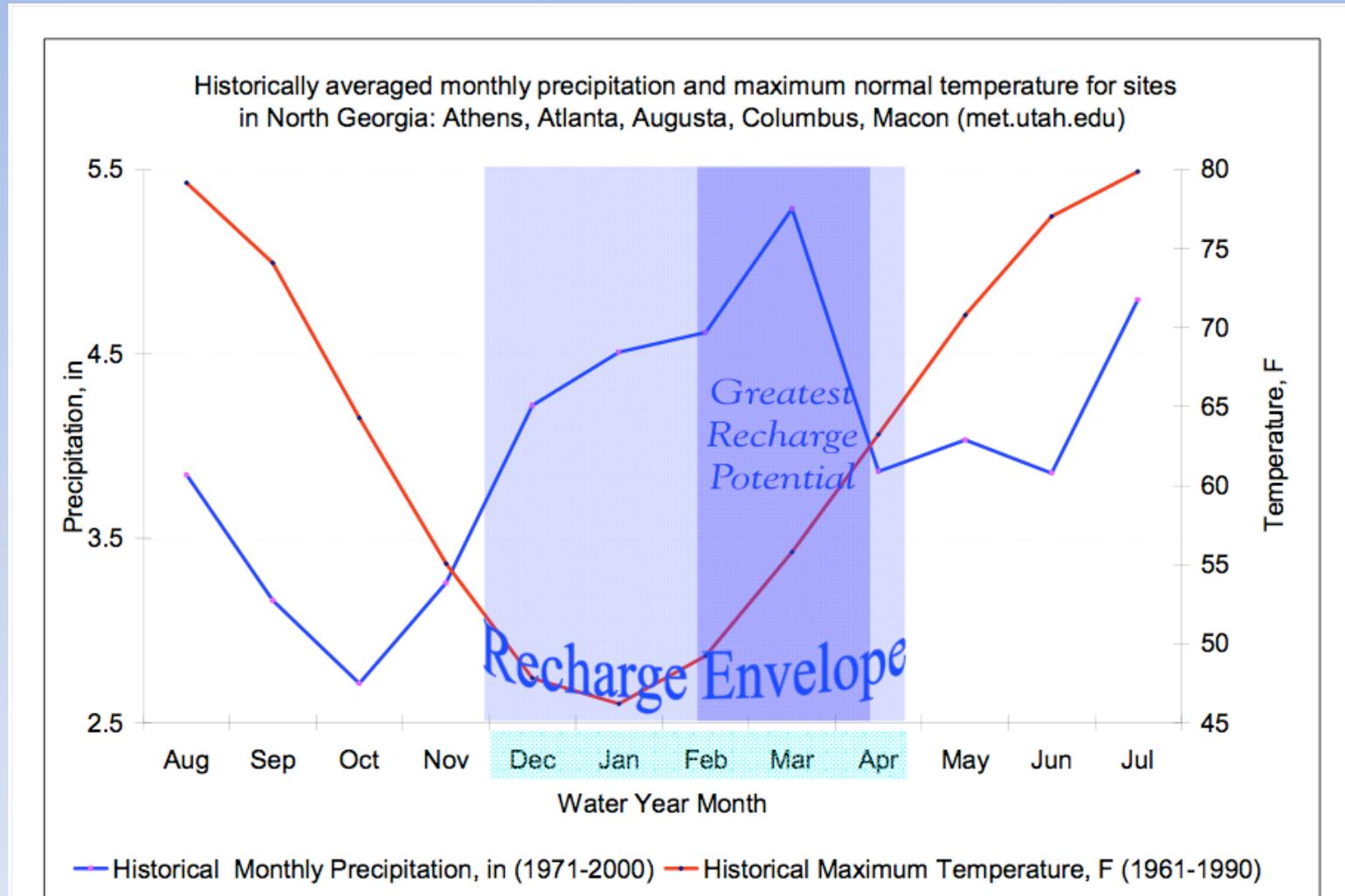
Georgia; May, 2014 Monthly Normal Precipitation
Valid at 6/1/2014 1200 UTC- Created 6/3/14 23:35 UTC



Georgia; June, 2014 Monthly Normal Precipitation
Valid at 7/1/2014 1200 UTC- Created 7/3/14 23:56 UTC



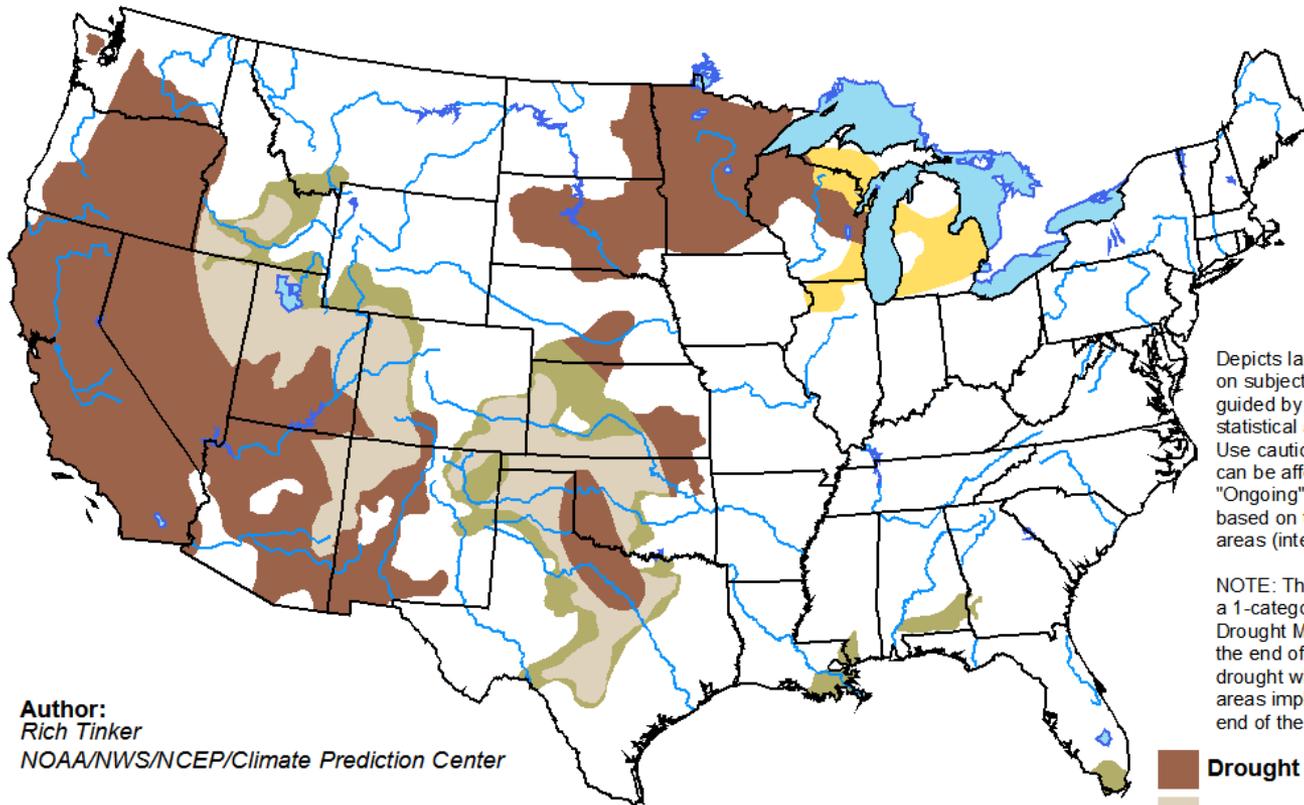
Winter/Spring Recharge – North Georgia



U.S. Drought Outlook

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for April 16 - July 31, 2015
Released April 16, 2015

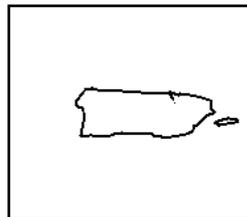
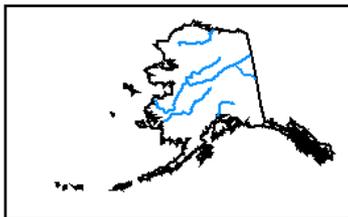


Author:
Rich Tinker
NOAA/NWS/NCEP/Climate Prediction Center

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

-  Drought persists/intensifies
-  Drought remains but improves
-  Drought removal likely
-  Drought development likely



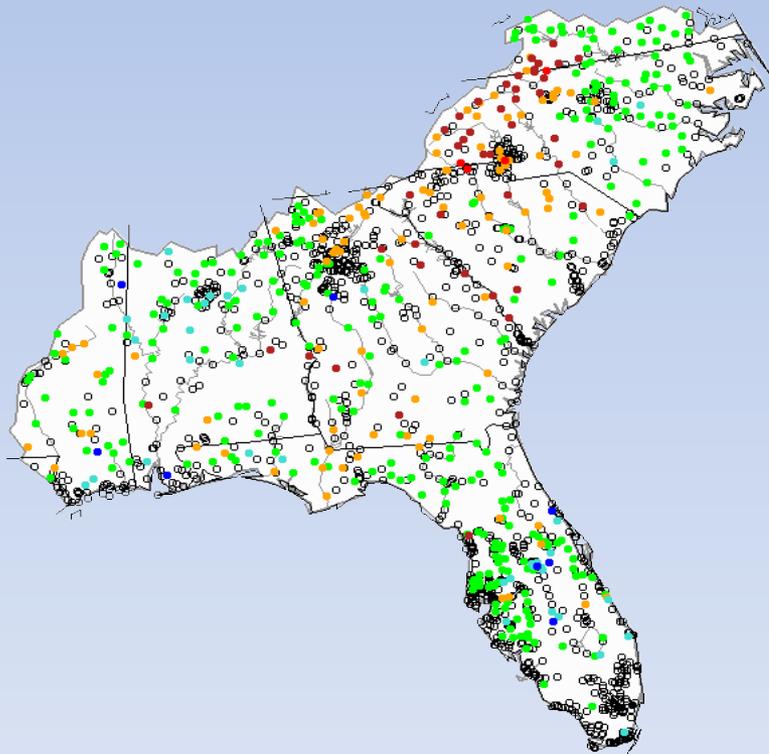
<http://go.usa.gov/hHTe>

Streamflows and Groundwater

Realtime stream flow compared with historical monthly averages

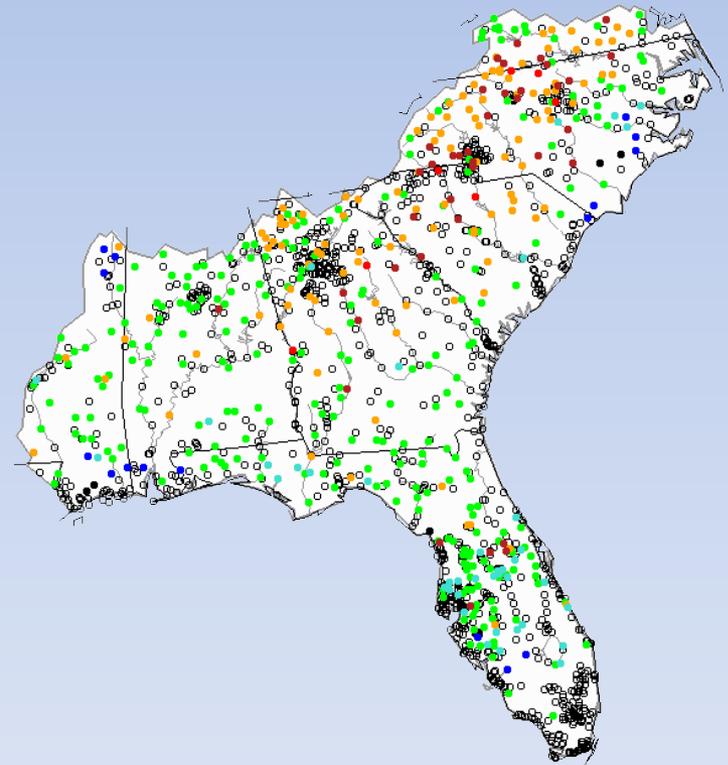
Previous Brief:

Monday, April 13, 2015 08:00ET



Current:

Monday, May 18, 2015 07:30ET



Explanation - Percentile classes						
●	●	●	●	●	●	●
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	



<http://waterwatch.usgs.gov>

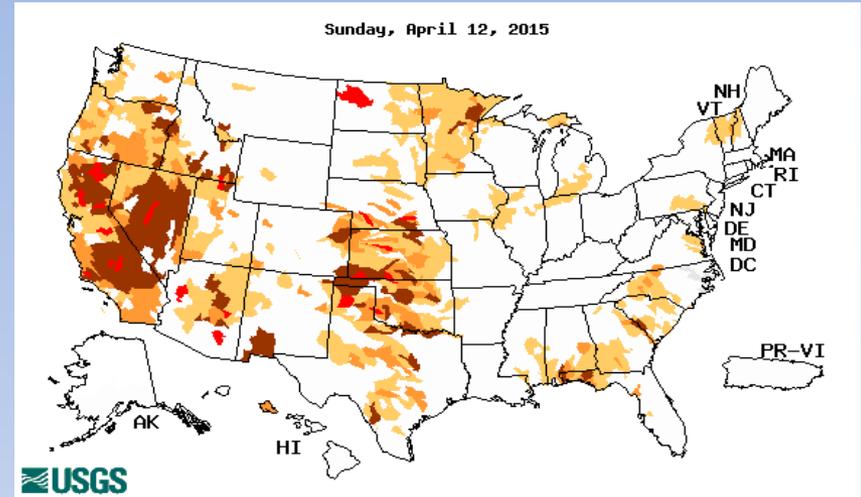
Below Normal 7-day Average Streamflows

Previous brief:

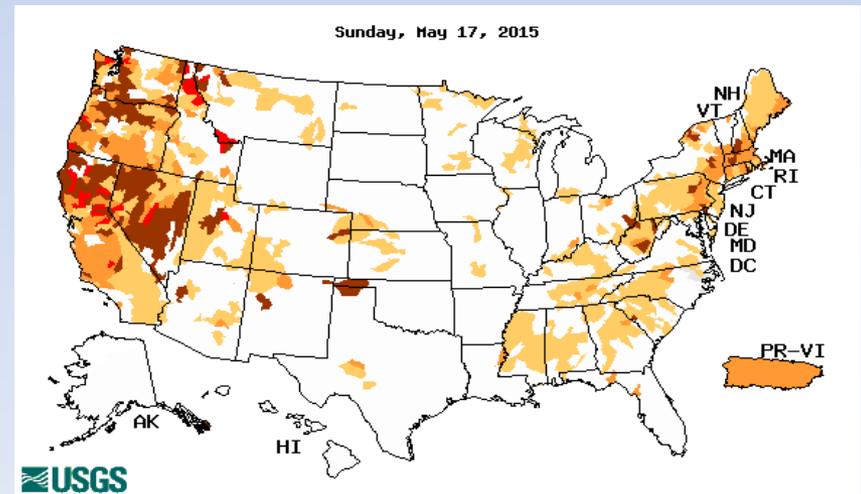
Below normal 7-day average streamflow as compared with historical streamflow for day shown

Current:

<http://waterwatch.usgs.gov>



Explanation - Percentile classes				
Low	<=5	6-9	10-24	Disrupted or data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

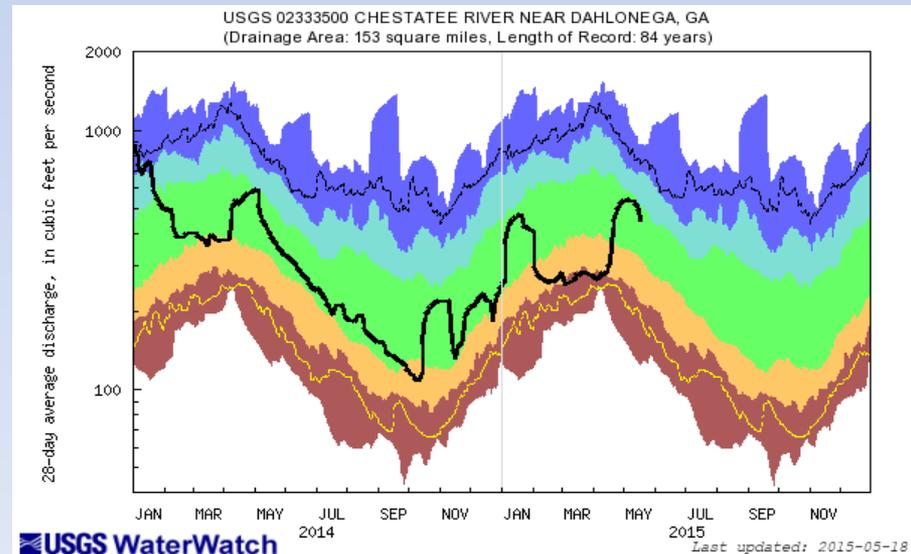
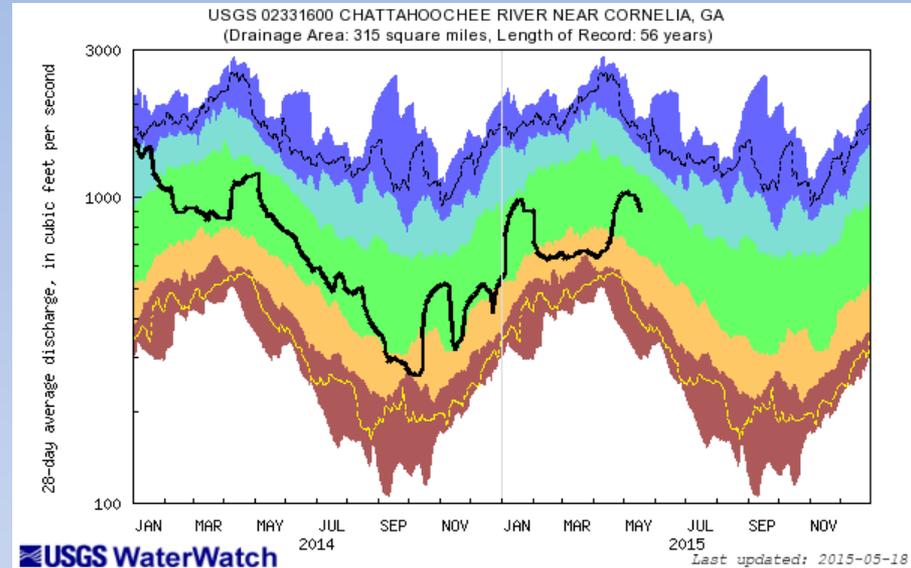


Lake Lanier Inflows

Chattahoochee near
Cornelia (02331600)

<http://waterwatch.usgs.gov>

Chestatee near
Dahlonega (02333500)



Explanation - Percentile classes							Flow
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest	
Much below Normal	Below normal	Normal	Above normal	Much above normal			

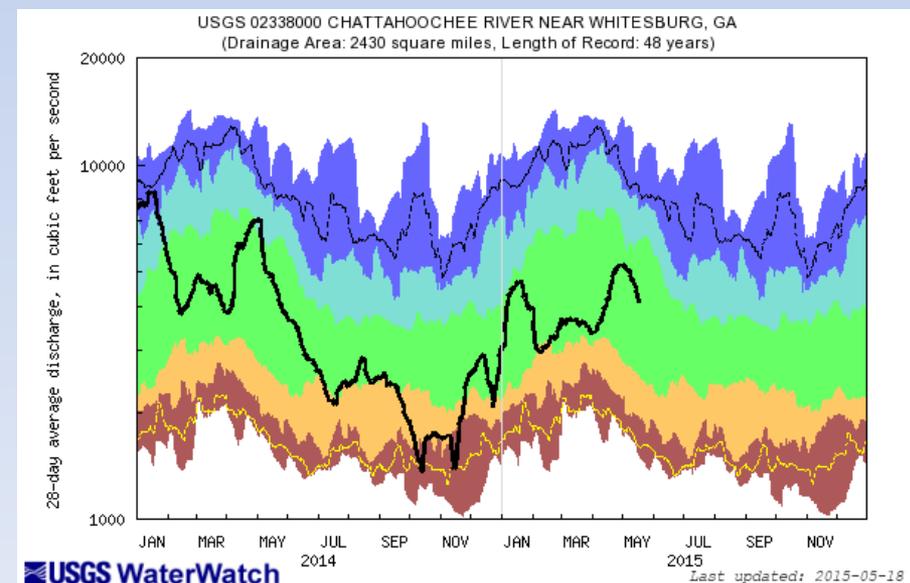
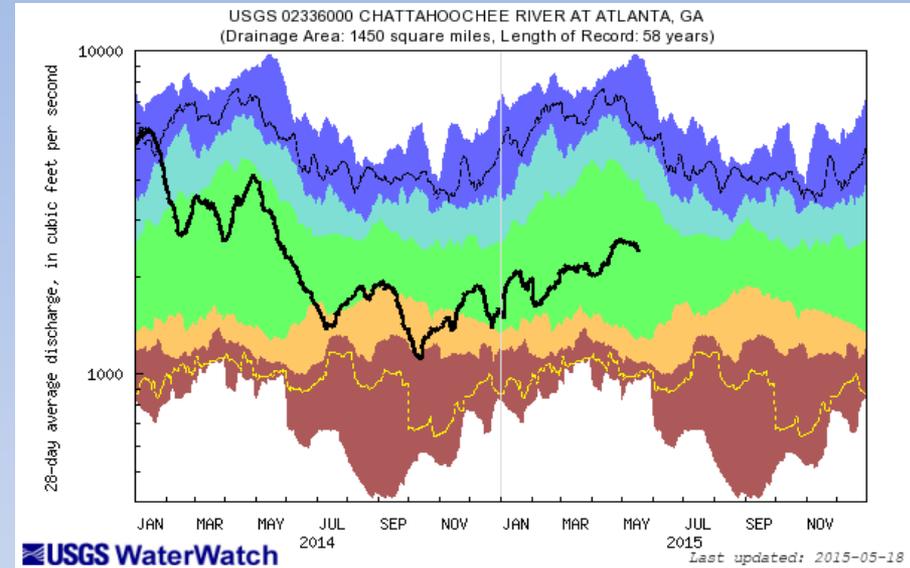
Current Streamflows

Chattahoochee at Atlanta (02336000)

<http://waterwatch.usgs.gov>

Chattahoochee near Whitesburg (02338000)

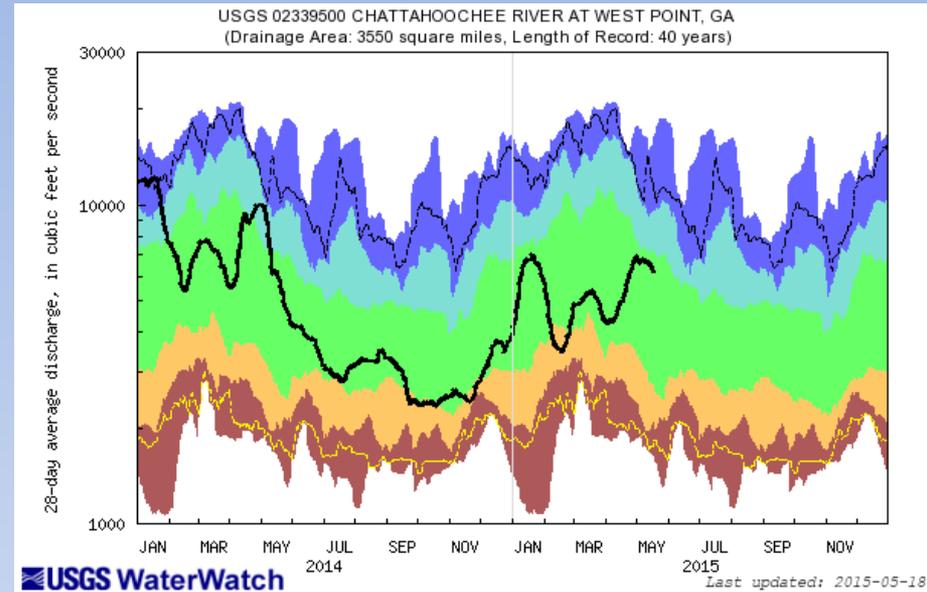
Explanation - Percentile classes						Flow
lowest-10th percentile	5	10-24	25-75	76-90	95	
Much below Normal	Below normal	Normal	Above normal	Much above normal	90th percentile - highest	



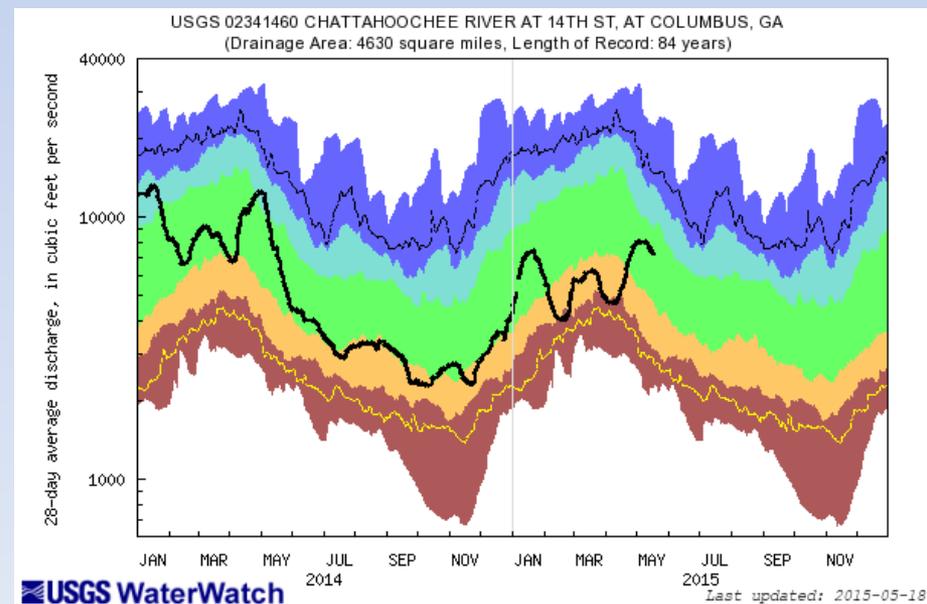
Current Streamflows

Chattahoochee at West Point (02339500)

<http://waterwatch.usgs.gov>



Chattahoochee at Columbus(02341460)



Explanation - Percentile classes						Flow
lowest-10th percentile	5	10-24	25-75	76-90	95	
Much below Normal	Below normal	Normal	Above normal	Much above normal	90th percentile - highest	

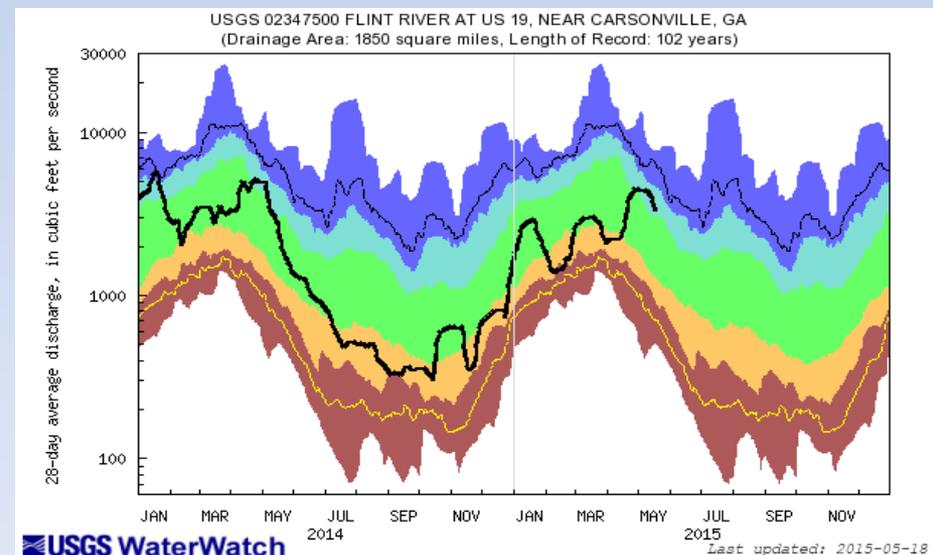
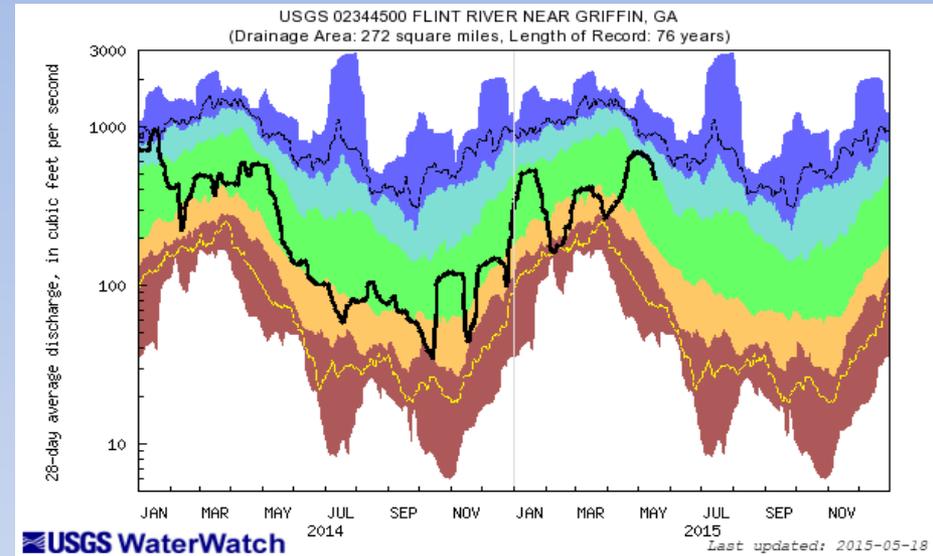
Current Streamflows

Flint River near Griffin (02344500)

<http://waterwatch.usgs.gov>

Flint River near Carsonville (02347500)

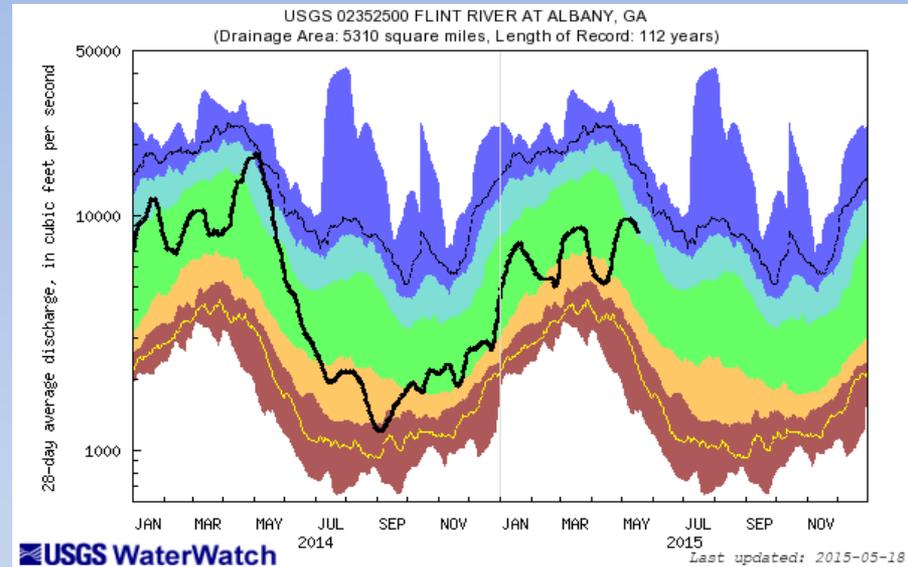
Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow



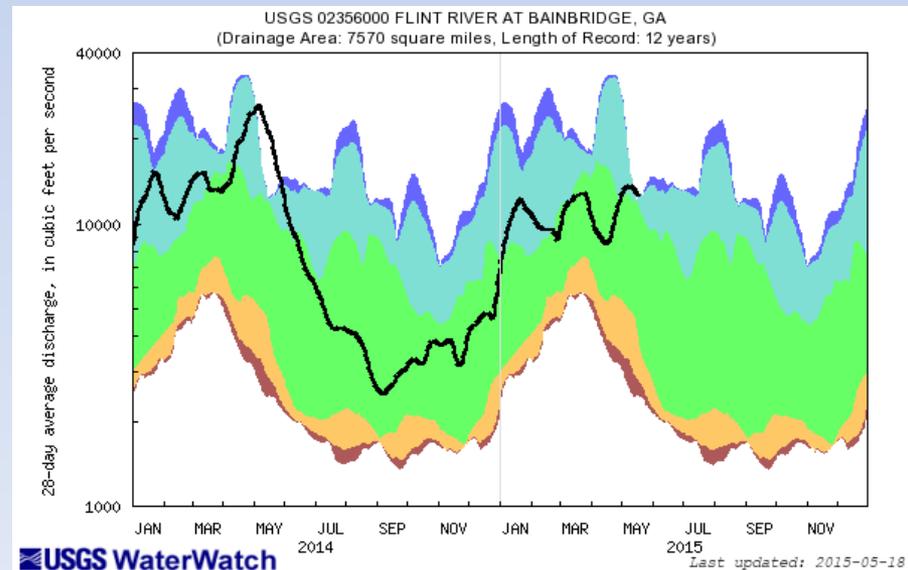
Current Streamflows

Flint River at Albany (02352500)

<http://waterwatch.usgs.gov>



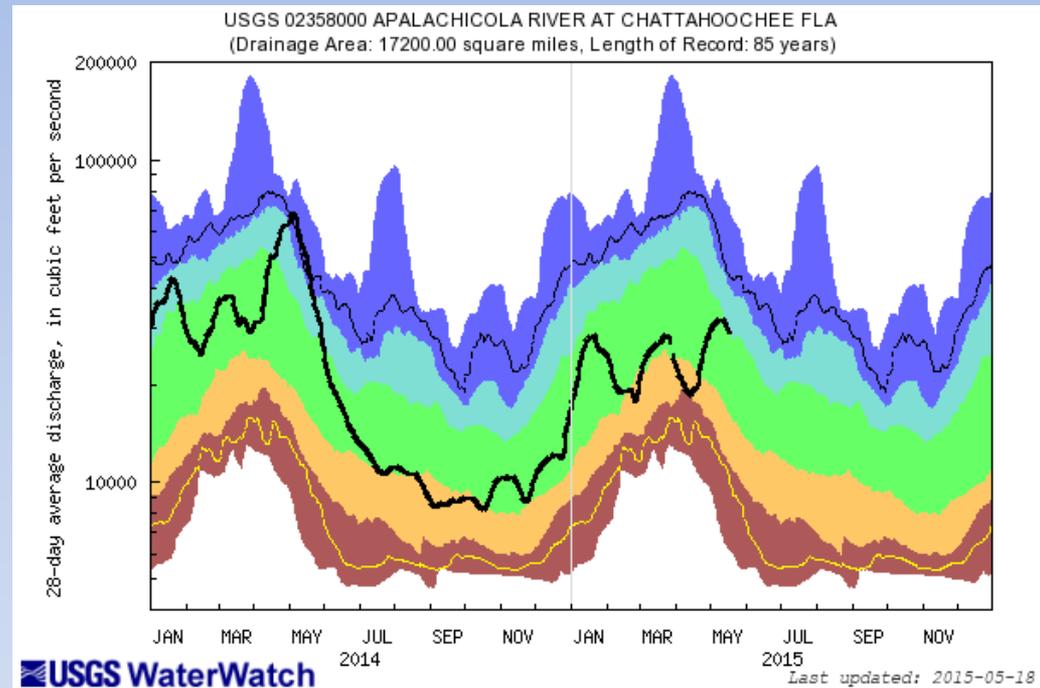
Flint at Bainbridge (02356000)



Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile-highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

Streamflows

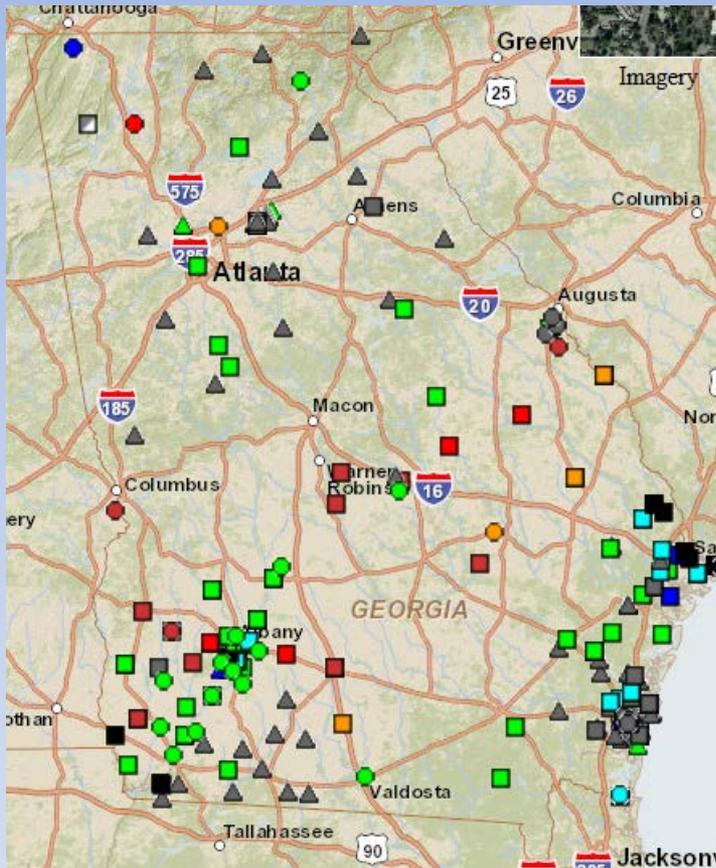
Apalachicola at Chattahoochee (02358000)



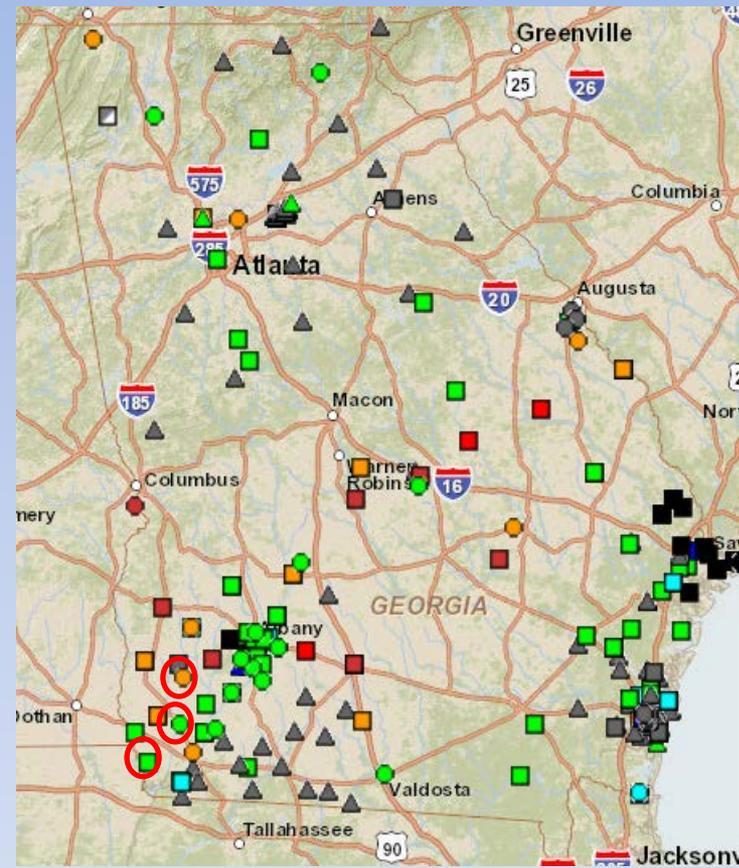
<http://waterwatch.usgs.gov>

Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

Groundwater Conditions



Previous brief

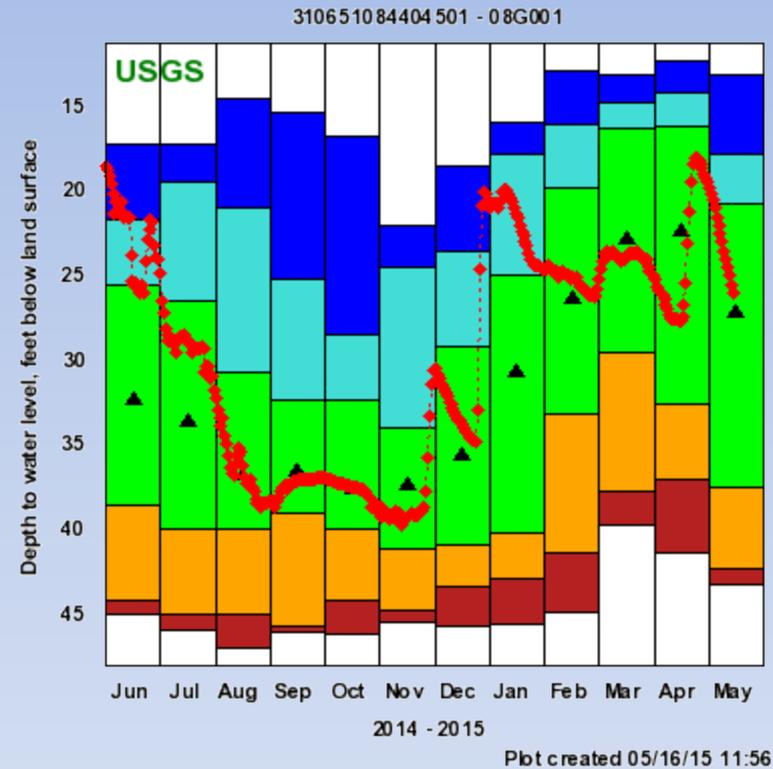
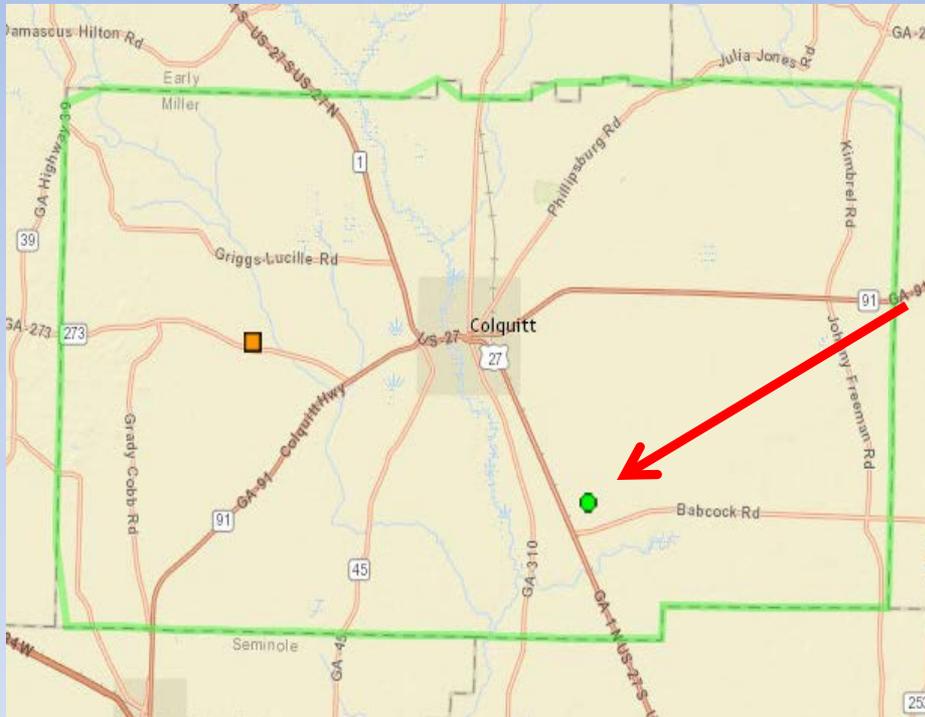


Current brief

Explanation - Percentile classes (symbol color based on most recent measurement)								Wells		Springs	
●	●	●	●	●	●	●	●	○	○	■	■
Low	<10	10-24	25-75	76-90	>90	High	Not Ranked	□	□	△	△
	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal					Periodic Measurements	

<http://groundwaterwatch.usgs.gov>

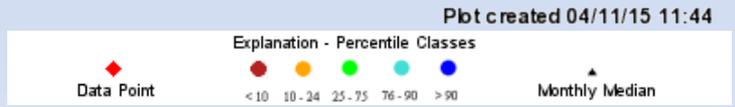
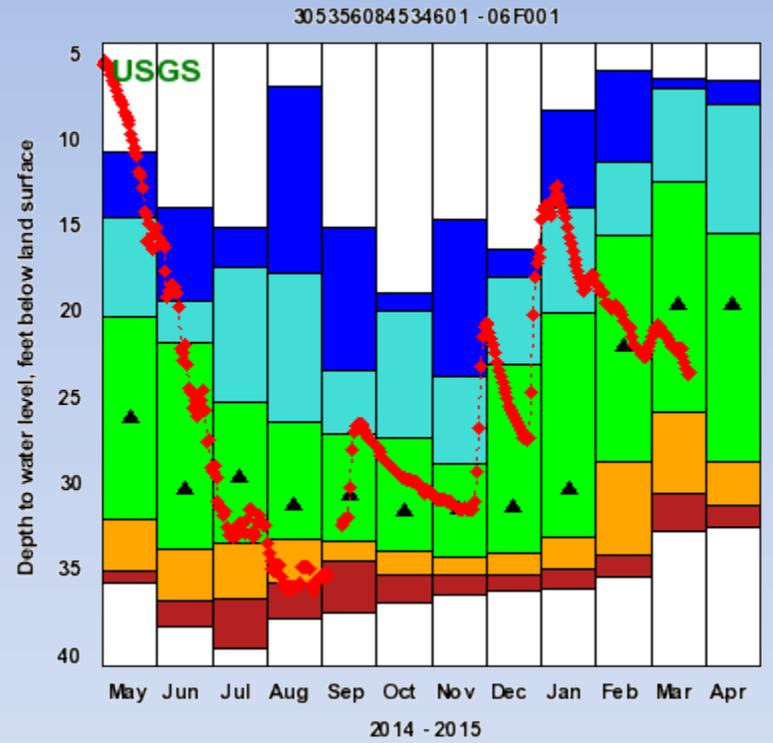
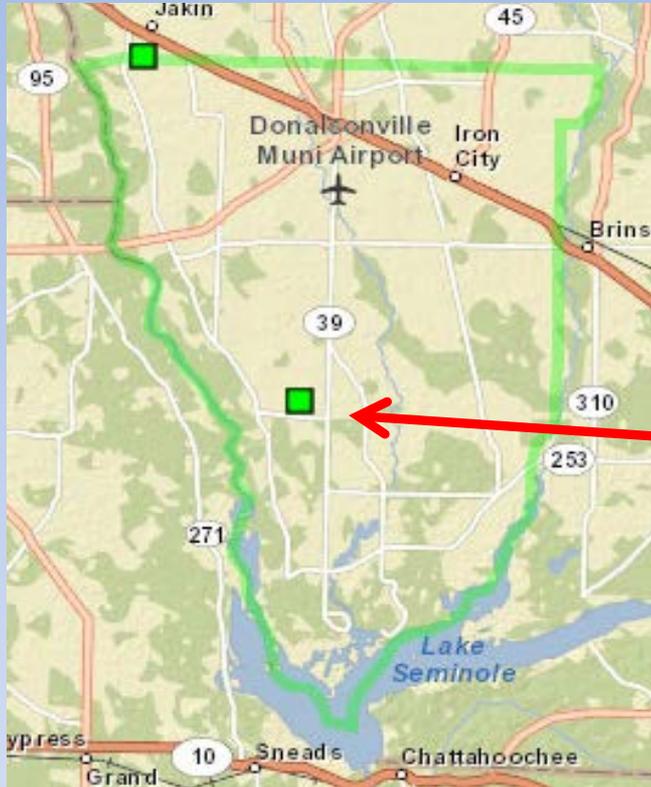
Groundwater Status – Miller County 08G001



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

(Upper Floridan Aquifer)

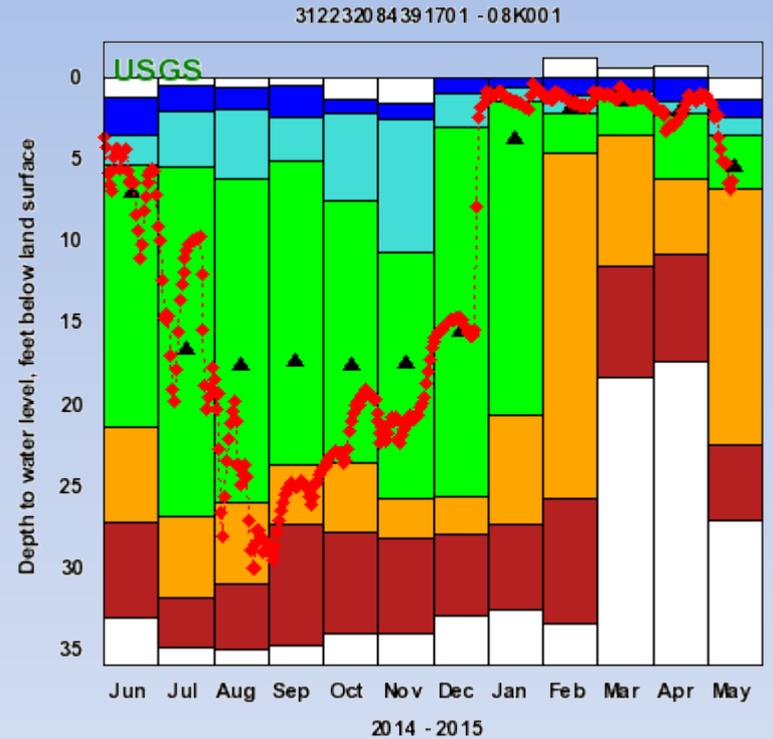
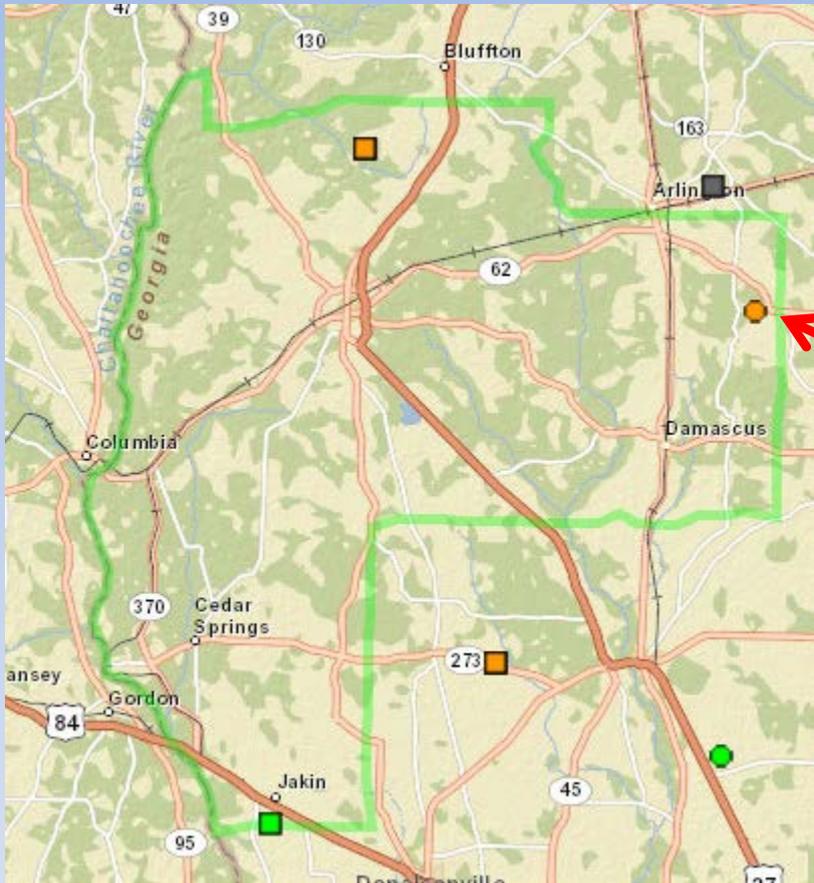
Groundwater Status – Seminole County 06F001



Explanation - Percentile classes (symbol color based on most recent measurement)								Wells		Springs	
Low	● <10	● 10-24	● 25-75	● 76-90	● >90	● High	● Not Ranked	○ Real-Time	■	□ Continuous	■
	● Much Below Normal	● Below Normal	● Normal	● Above Normal	● Much Above Normal			△ Periodic Measurements	■		

(Upper Floridan Aquifer)

Groundwater Status – Early County 08K001



Explanation - Percentile classes (symbol color based on most recent measurement)							Wells		Springs	
Low	●	●	●	●	●	●	○	□	■	▣
	<10	10-24	25-75	76-90	>90	High	Not Ranked	△	▤	▥
	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal			Periodic Measurements		

Explanation - Percentile Classes

◆ Data Point	● < 10	● 10-24	● 25-75	● 76-90	● > 90	▲ Monthly Median
---	---	---	--	---	--	---

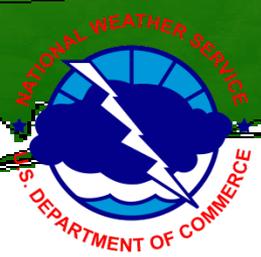
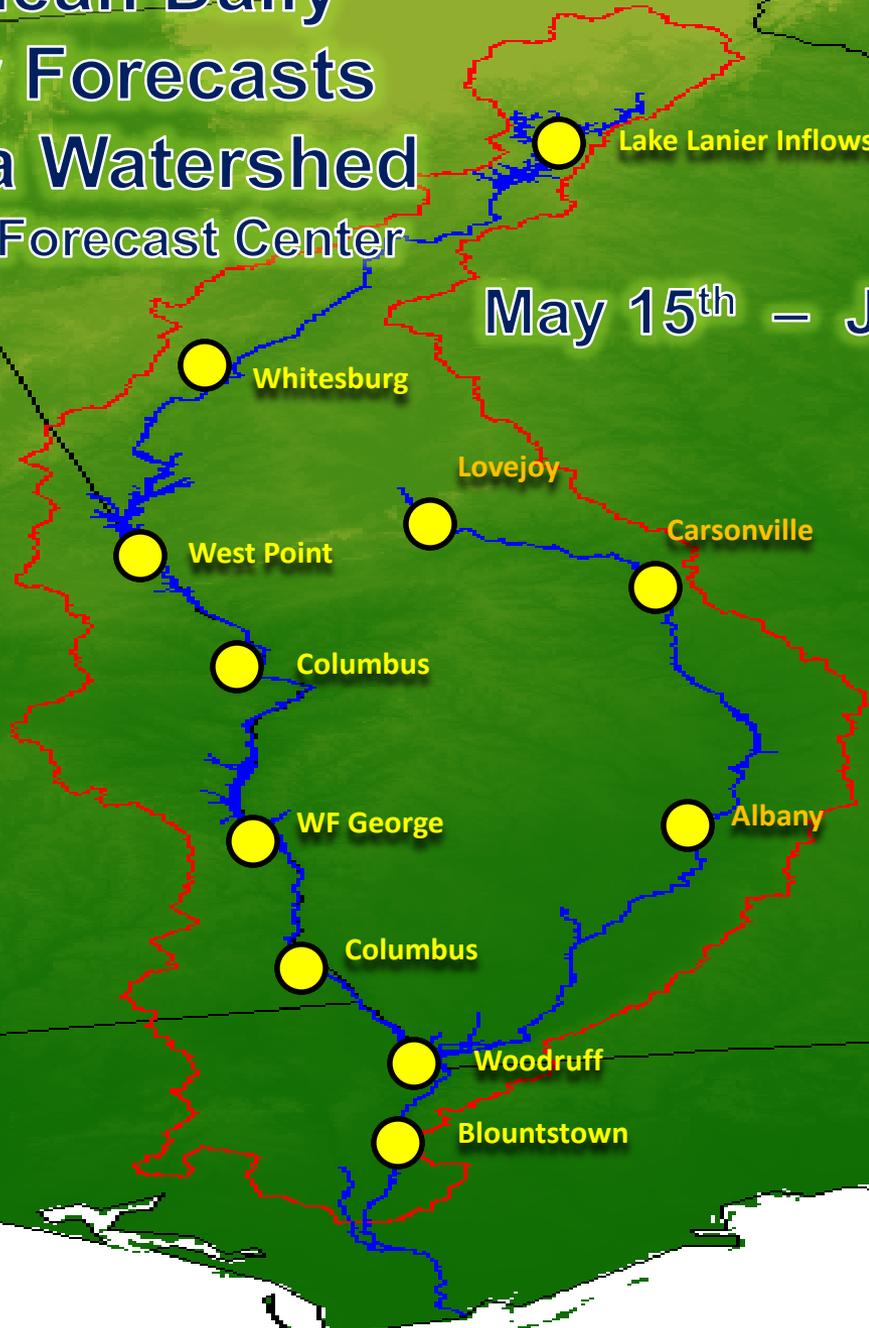
(Upper Floridan Aquifer)

Streamflow Forecasts

1-Month Mean Daily Streamflow Forecasts Apalachicola Watershed Southeast River Forecast Center

May 15th – June 15th 2015

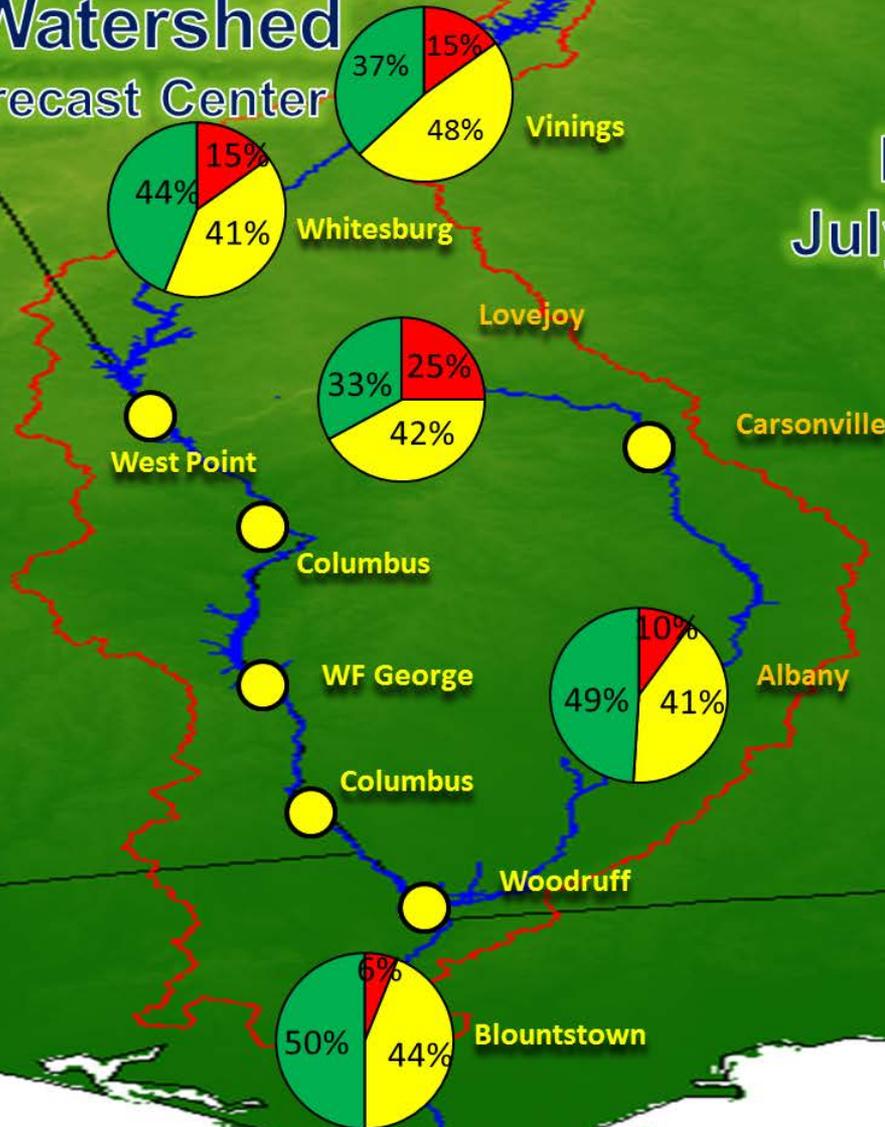
-  Above Normal
-  Near Normal
-  Below Normal



3-Month Mean Daily Streamflow Forecasts Apalachicola Watershed Southeast River Forecast Center

May 1st -
July 31st 2015

-  Above Normal
-  Near Normal
-  Below Normal



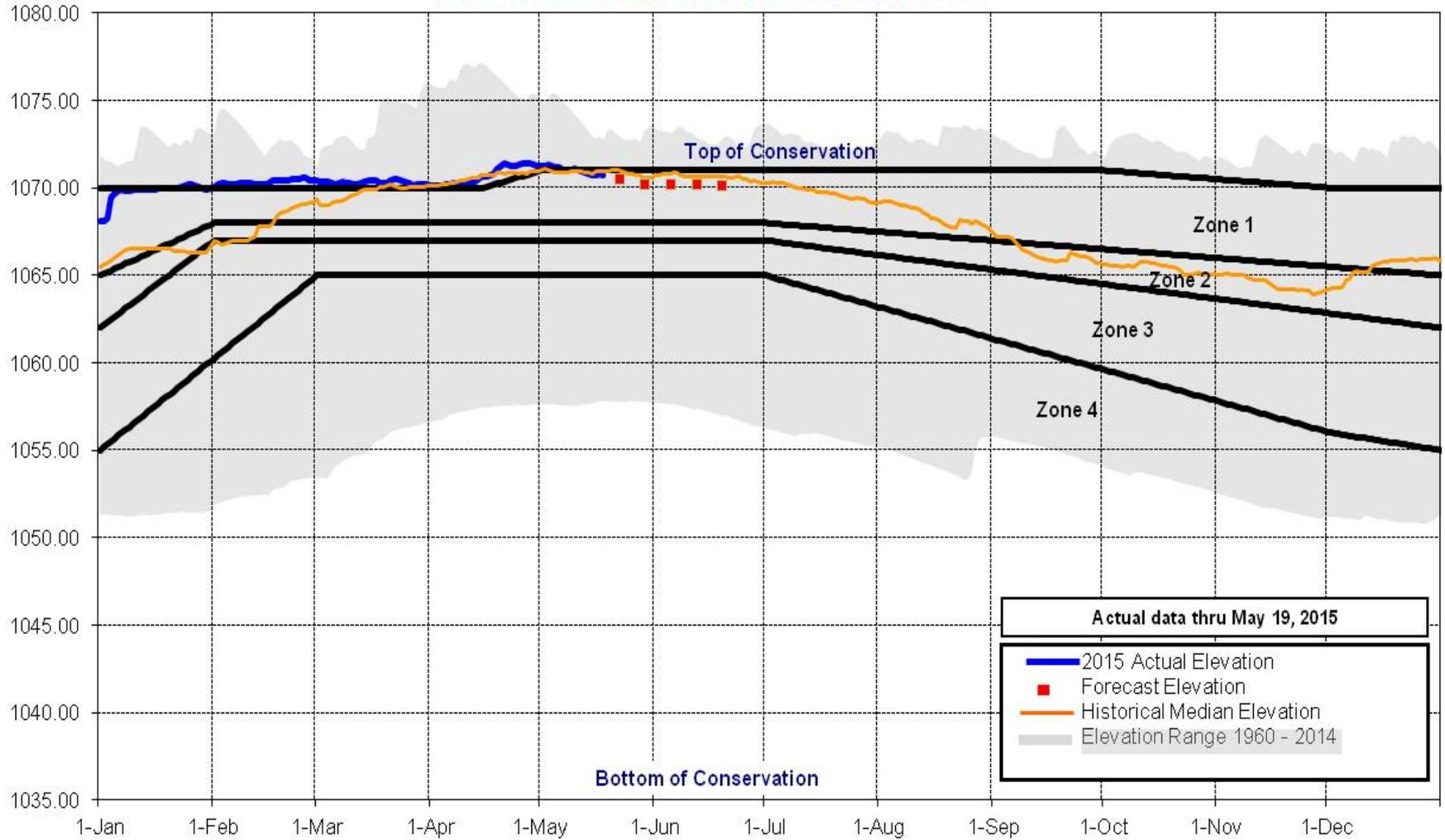
ACF Reservoir Conditions

USACE – ACF Reservoir Conditions May 29th 2015

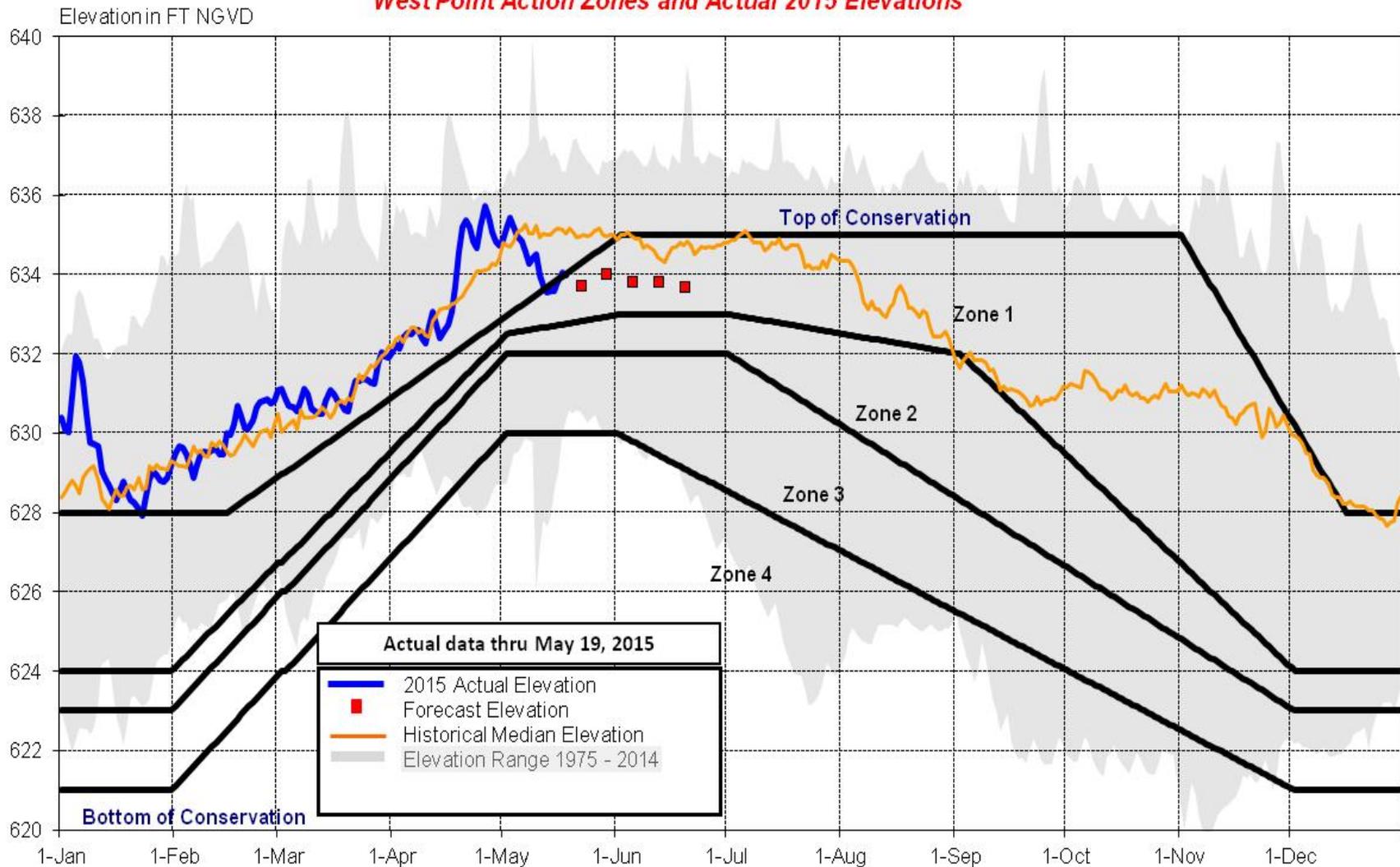


Elevation in FT NGVD

Lanier Action Zones and Actual 2015 Elevations

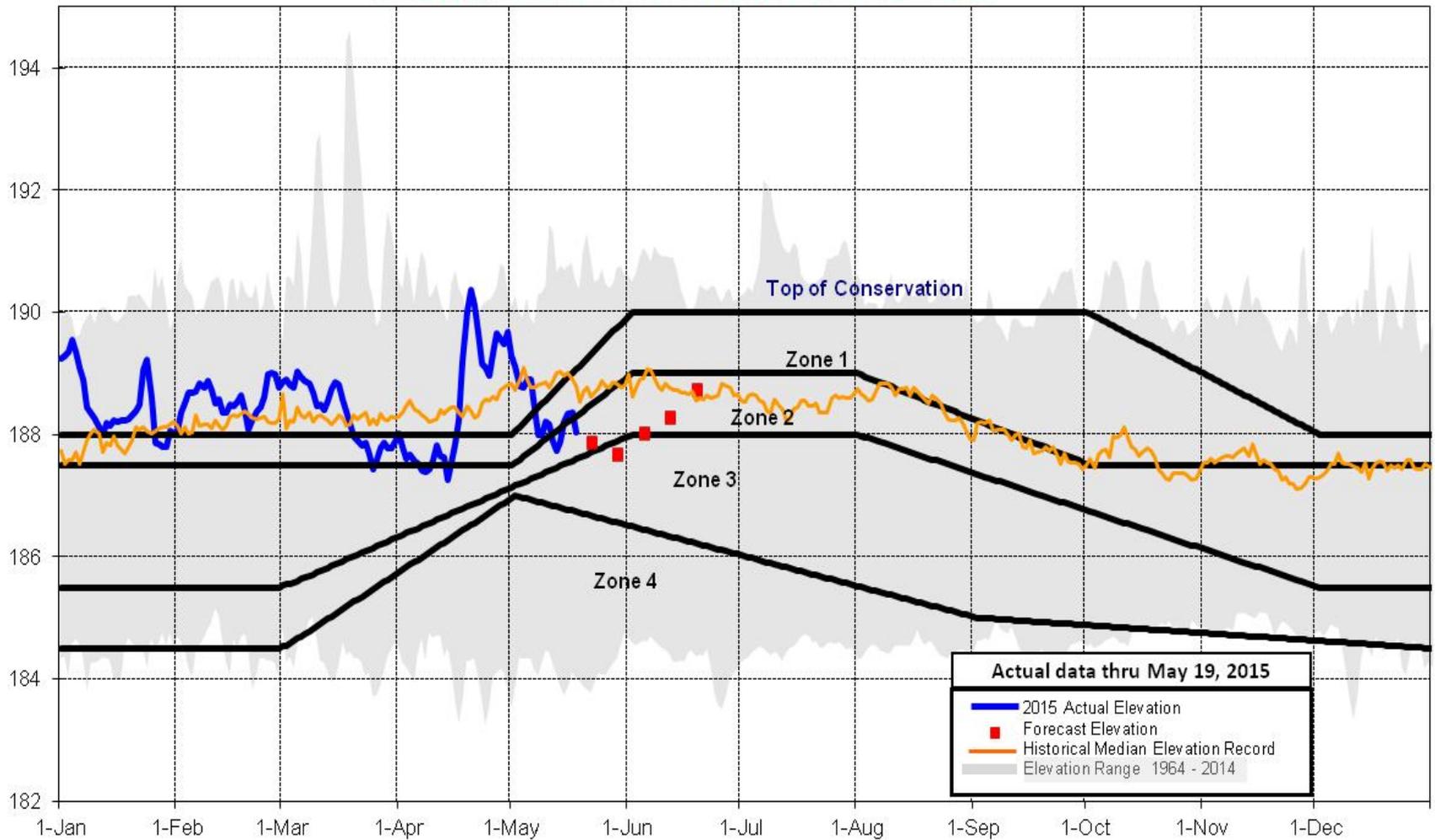


West Point Action Zones and Actual 2015 Elevations



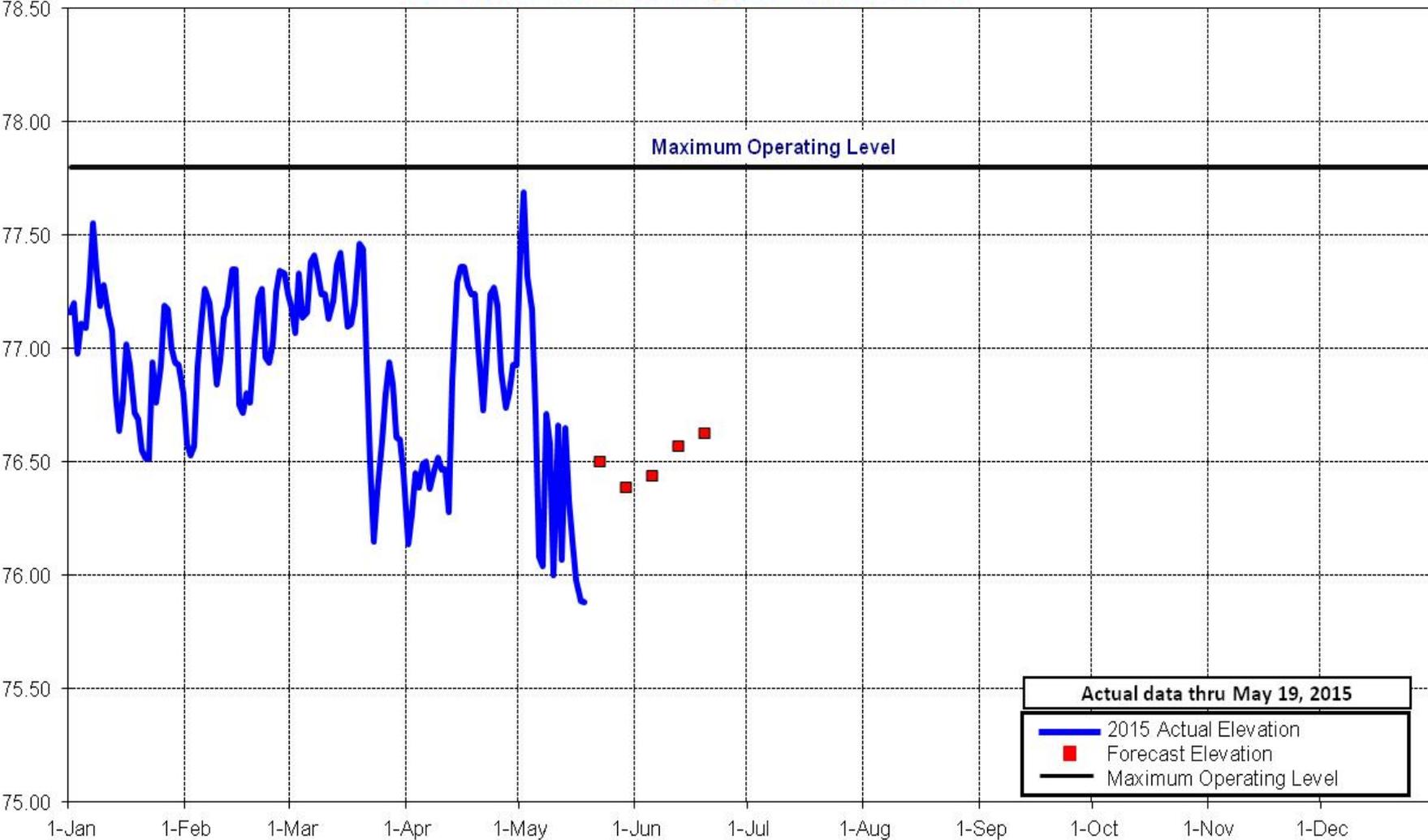
Elevation in FT NGVD

W.F. George Action Zones and Actual 2015 Elevations



Jim Woodruff Actual & Projected 2015 Elevations

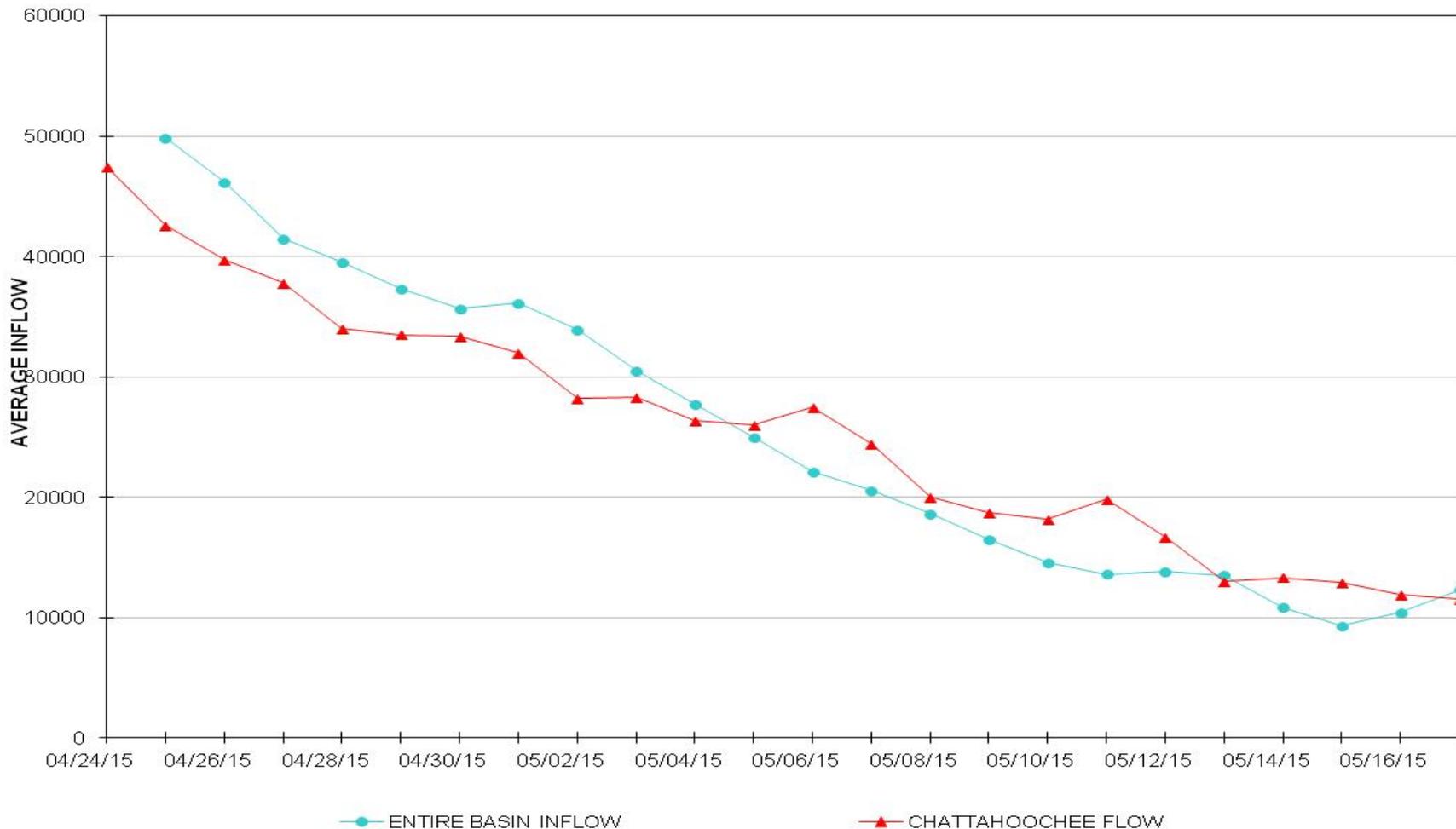
Elevation in FT NGVD



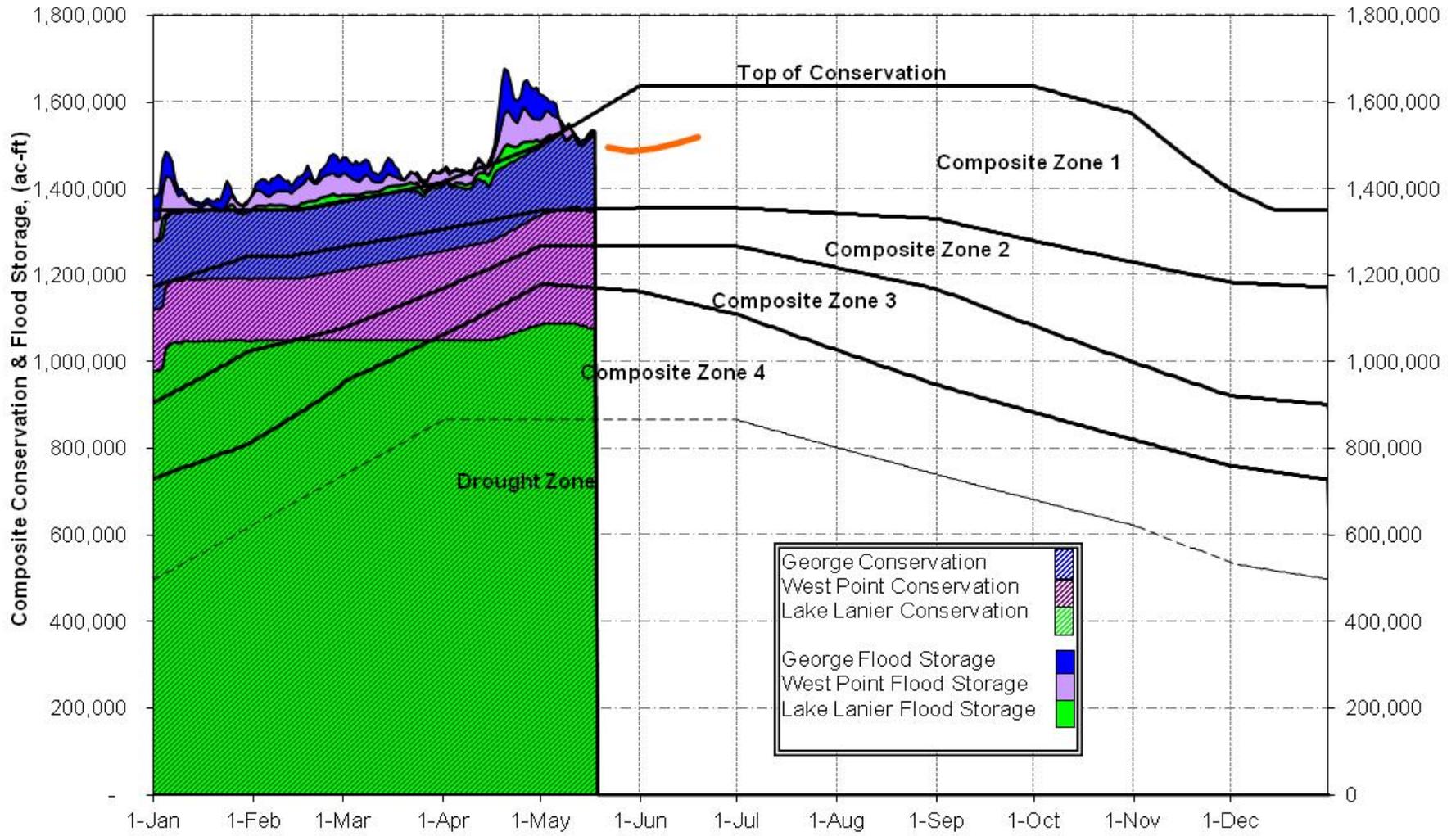
Actual data thru May 19, 2015

- 2015 Actual Elevation
- Forecast Elevation
- Maximum Operating Level

7-DAY MOVING AVERAGE INFLOW VERSUS 1-DAY CHATTAHOOCHEE FLOW



2015 ACF Basin Composite Conservation and Flood Storage



Actual data thru 5-19-2015

Add value of 1,856,000 acre-ft to include inactive storage.

Summary – David Zierden

- Large-scale pattern changed with troughing over the Southwest and heavy rains in Texas and Oklahoma.
- Mostly normal rainfall the past 30-90 days, dry more recently.
- Middle ACF designated as Abnormally Dry by the *US Drought Monitor*.
- NOAA declares El Nino Advisory in early March.
- Strong westerly winds and downwelling Kelvin wave results in further warming of SST's.
- Warm SST anomalies have now appeared at the S. American Coast.
- CPC Outlooks strongly favor pattern of above normal rainfall for Southern U.S. for the next 1-3 months
- Strong/Early El Nino composites suggest possible dryness late in the summer.

Summary-Paul Ankcorn

- Realtime streamflows are in the normal to below normal range for most of the upper ACF basin and in the normal range for the lower ACF.
- Inflows into Lake Lanier are in the normal range for the 28-day average flows.
- Streamflows are in the normal range throughout the Flint River basin the 28-day average flows.
- Groundwater levels are in the normal to below normal range in Southwest Georgia.

Summary- Todd Hamill

- 1 Month Streamflow forecast - Near Normal
- 3 Month Streamflow forecast – Wet April has set probabilities to near to above normal range
- Pie Charts do not consider recent wet weather or any future forecast such as ENSO, CPC or other. Based on soil conditions relative to normal in concert with historical precipitation.

Summary- Bailey Crane

- Due to dry conditions and the rapid decline in the Flint, some reservoirs are below full
- System conservation storage is expected remain in zone 1 through June. Without slightly above average rain, expect a gradual decline in lake levels by mid June.
- Inflow into the USACE projects has fallen below average for this time of year.

Questions, Comments, Discussion

References

Speakers

David Zierden, FSU

Paul Ankorn, USGS

Todd Hamill, SERFC

Bailey Crane, United
States Army Corps of
Engineers

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

June 16, 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:

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