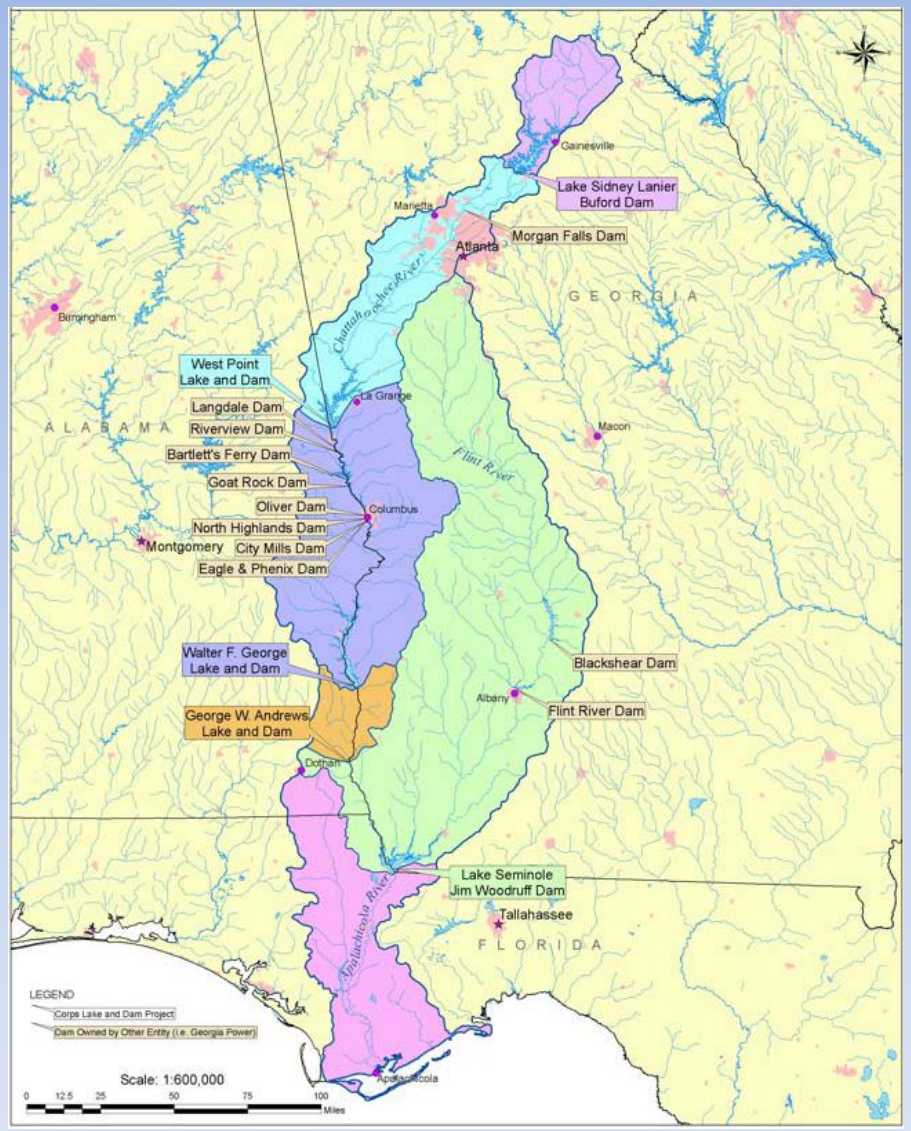
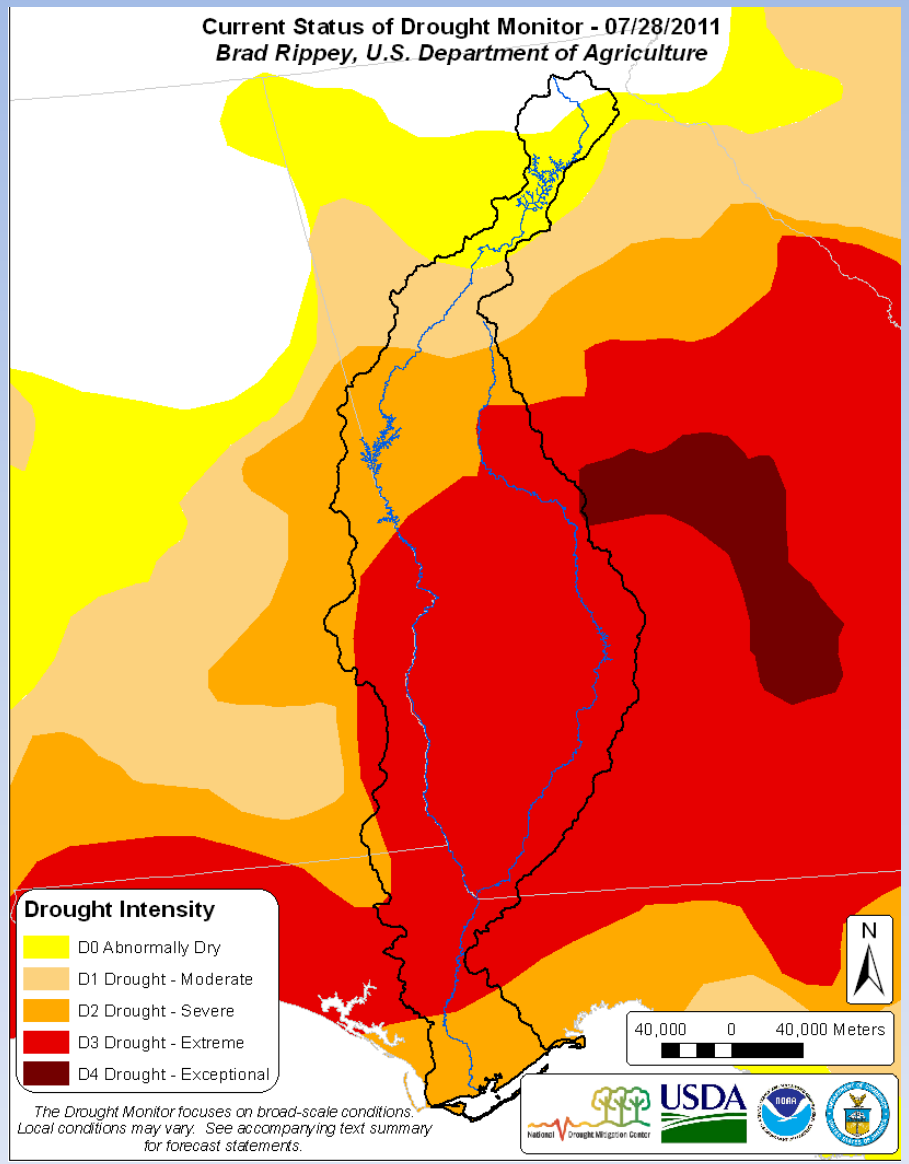
National Integrated Drought Information System

Southeast US Pilot for Apalachicola-Flint-Chattahoochee River Basin

2 August 2011



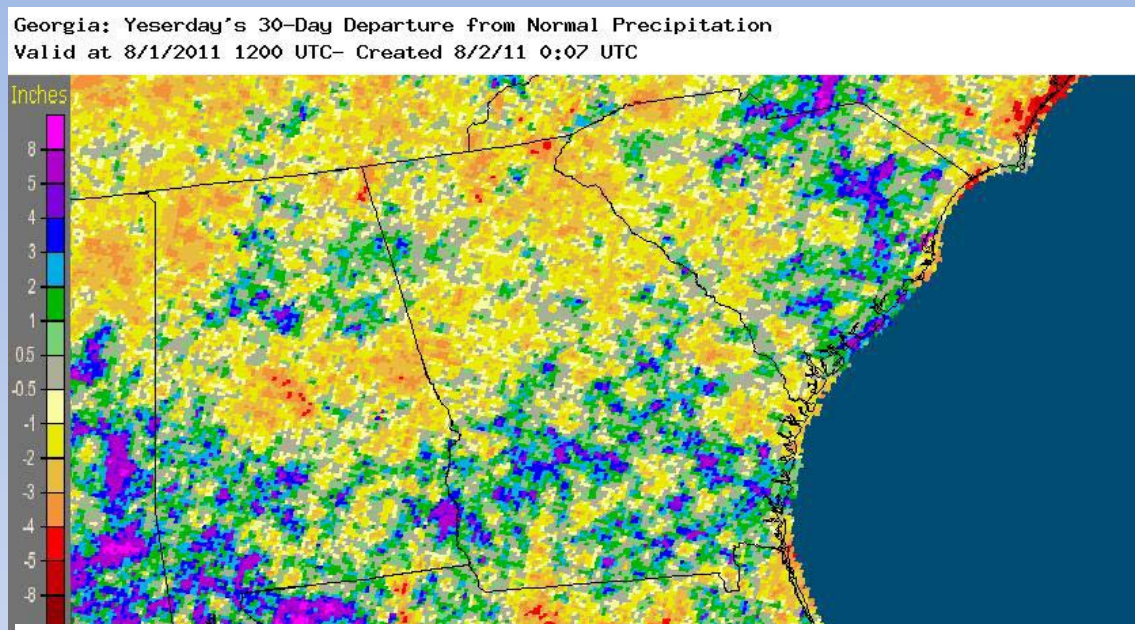
Current drought status from Drought Monitor



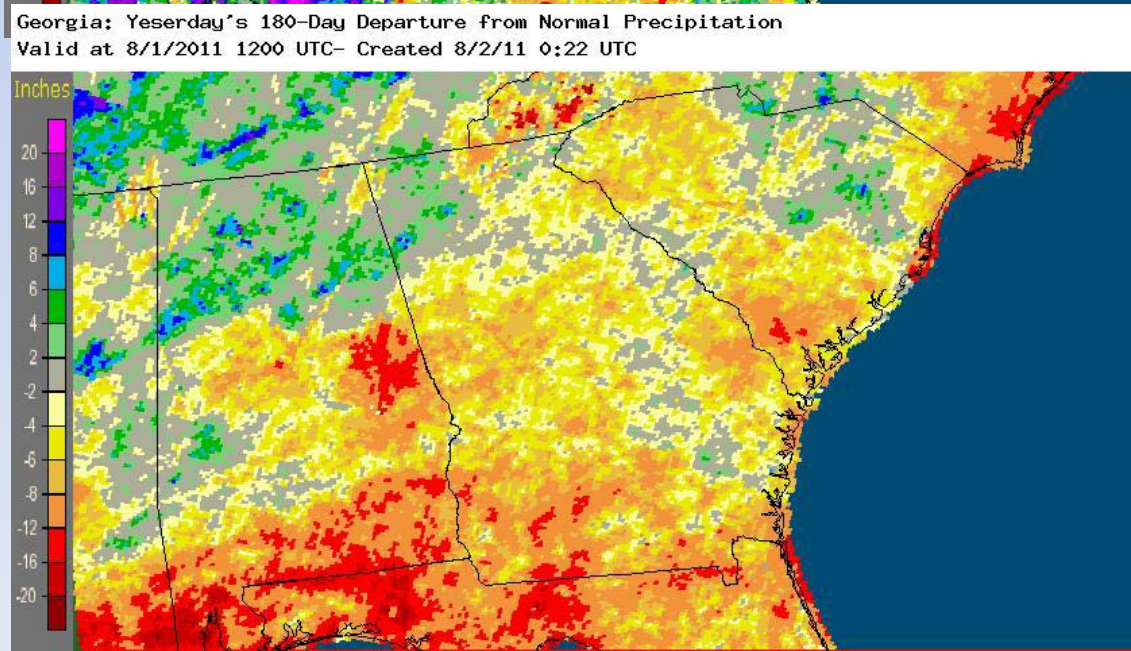
http://www.drought.unl.edu/dm/monitor.html

Cumulative Rainfall Deficits

Past 30 days

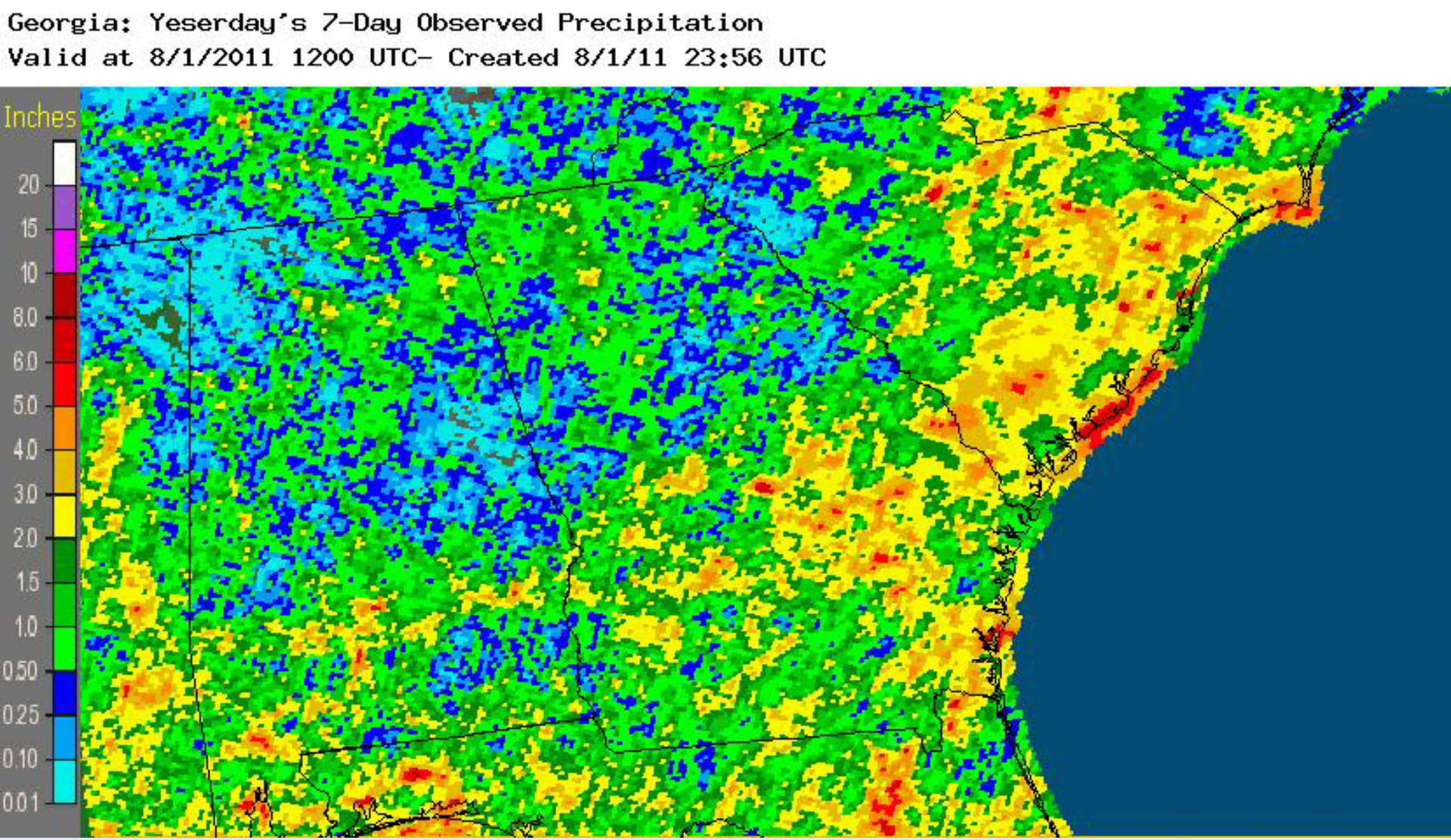


Past 180 days

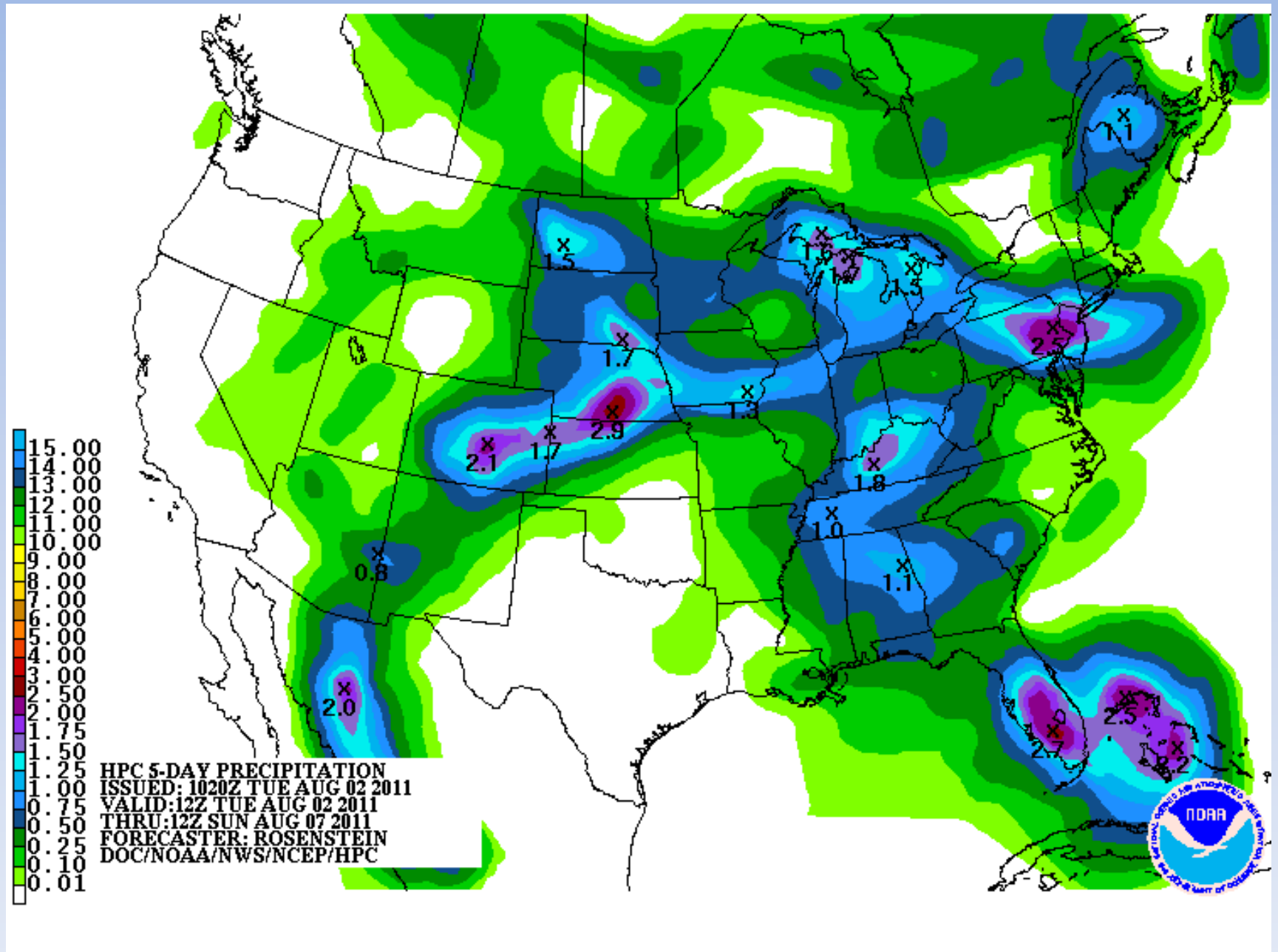


http://water.weather.gov/precip/

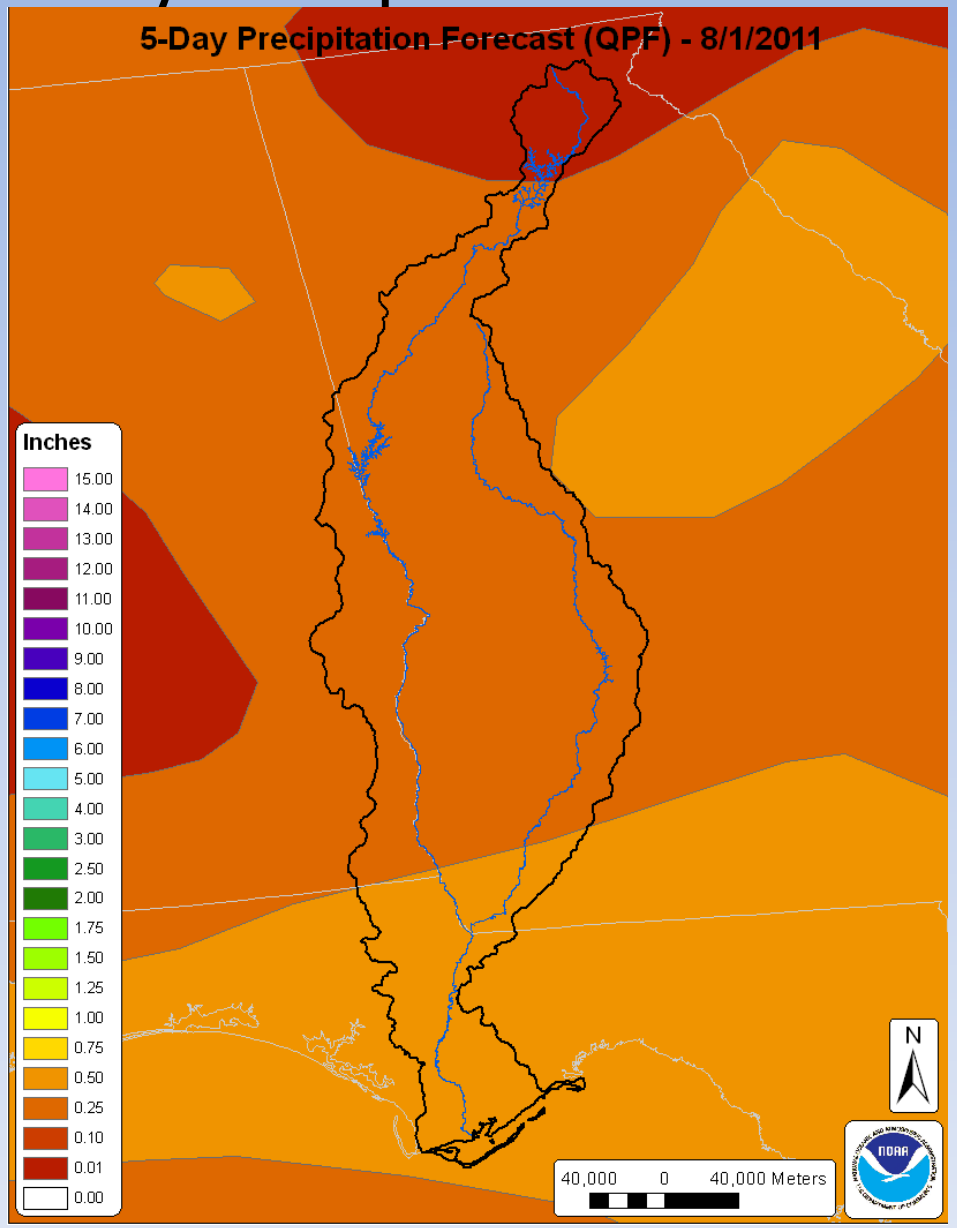
7-day Rainfall Totals



5-Day Precipitation Forecast



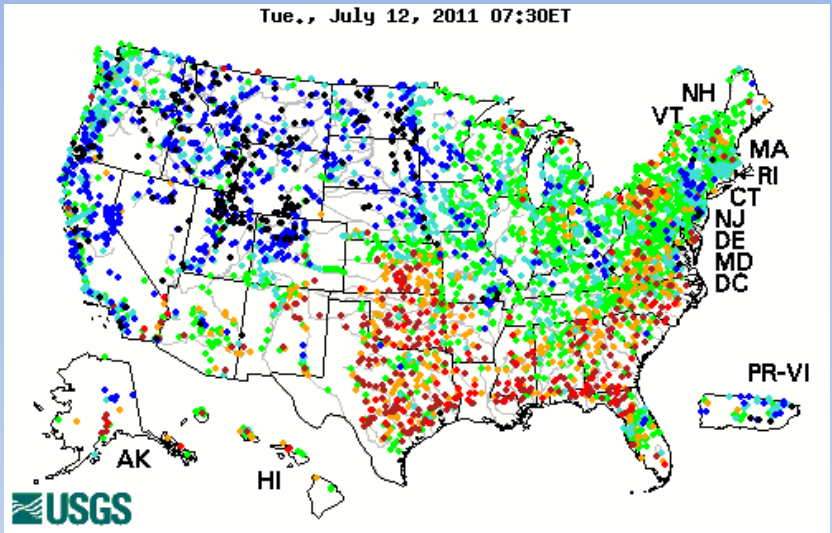
5-Day Precipitation Forecast



http://www.hpc.ncep.noaa.gov/qpf/day1-5.shtml

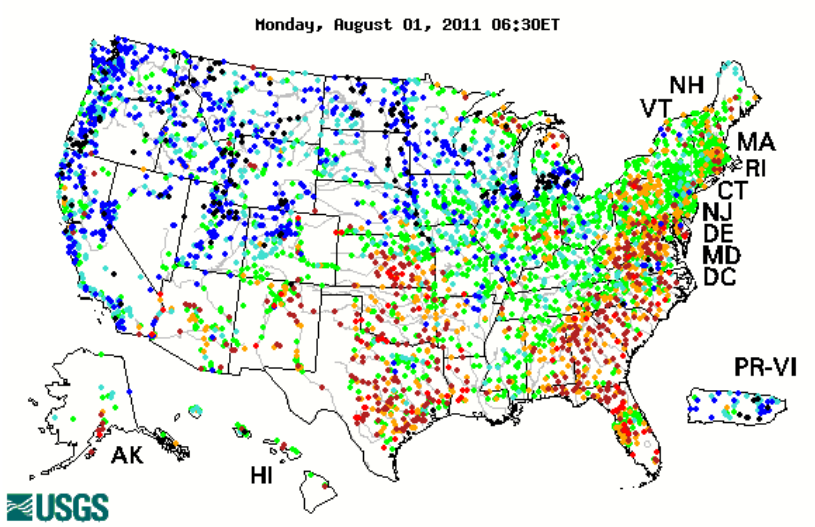
Real-time stream flow compared with historical averages

Previous Month:



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

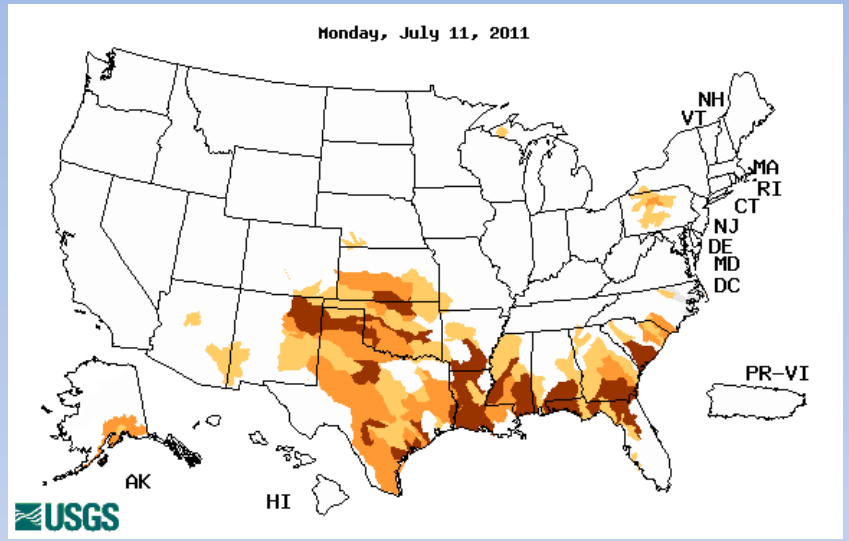
Current:

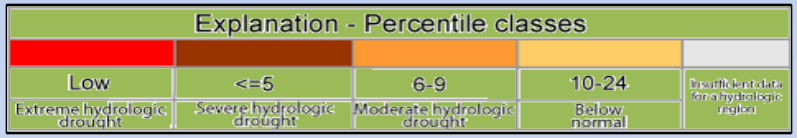


http://waterwatch.usgs.gov

Below Normal 7-day Average Streamflows

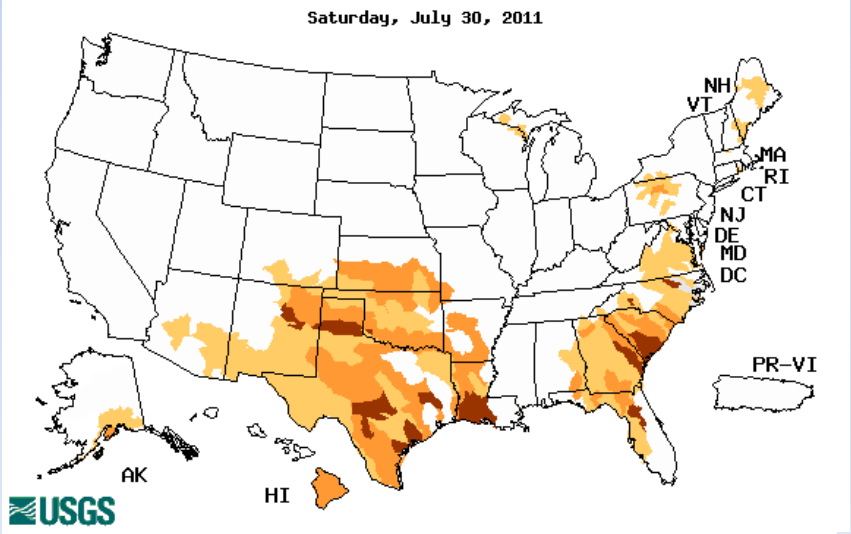
Previous month:





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

Current:

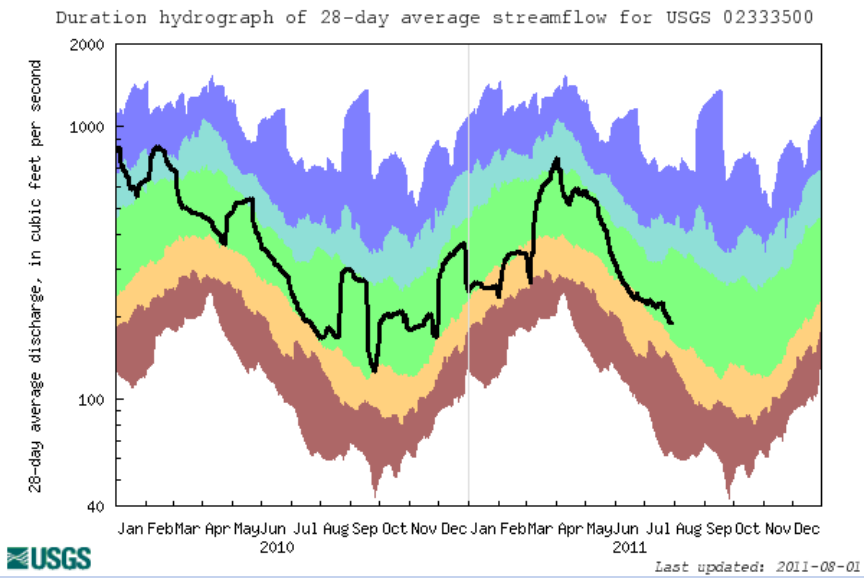


http://waterwatch.usgs.gov

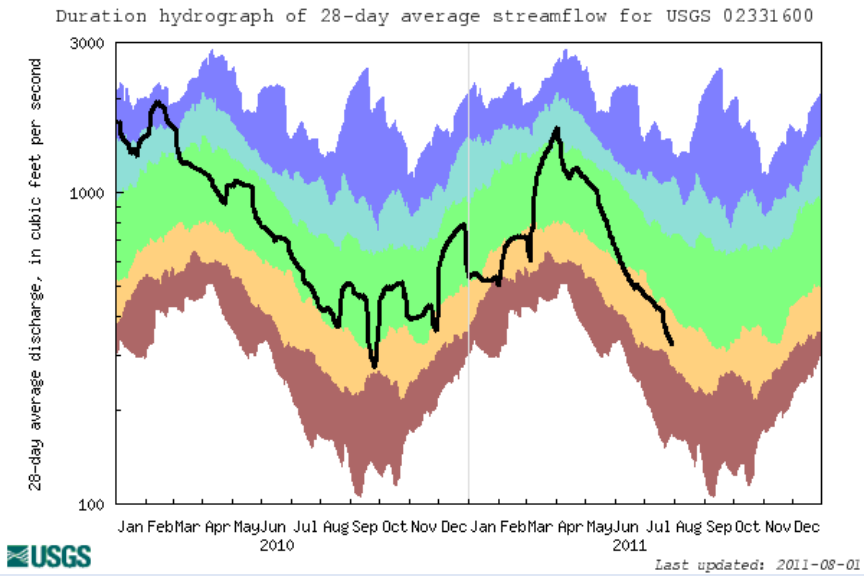
Lake Lanier Inflows

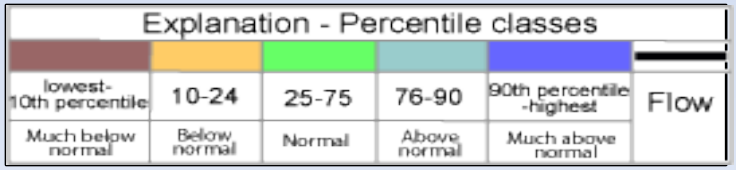
Chestatee near Dahlonega (02333500)

http://waterwatch.usgs.gov



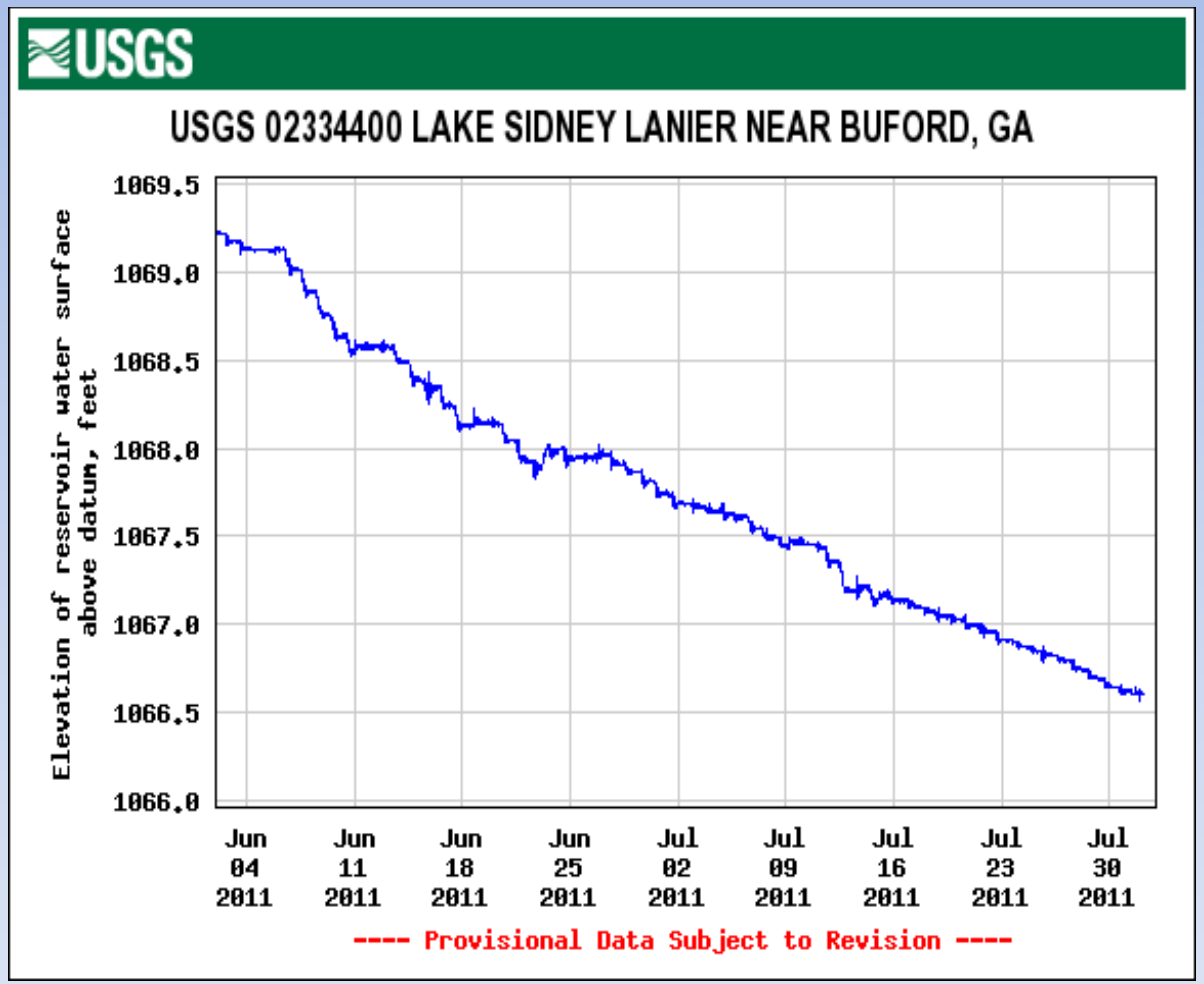
Chattahoochee near Cornelia (02331600)





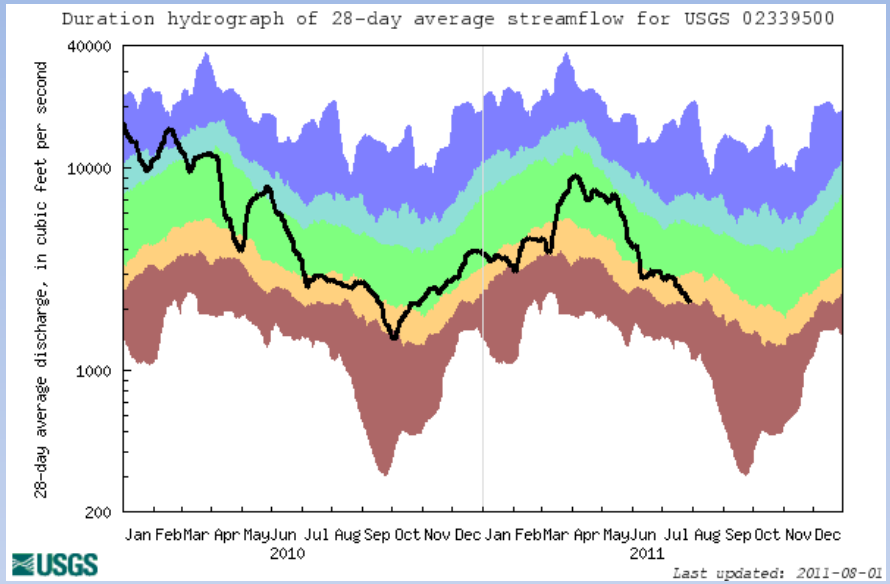
Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile -highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

Lake Lanier Levels (02334400) for Previous 60 Days



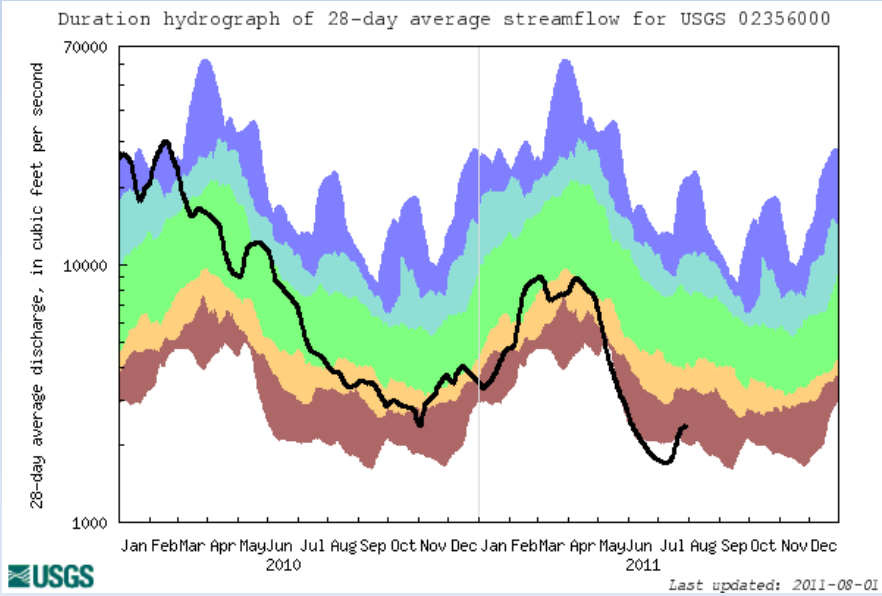
Current Streamflows

Chattahoochee at West Point (02339500)



http://waterwatch.usgs.gov

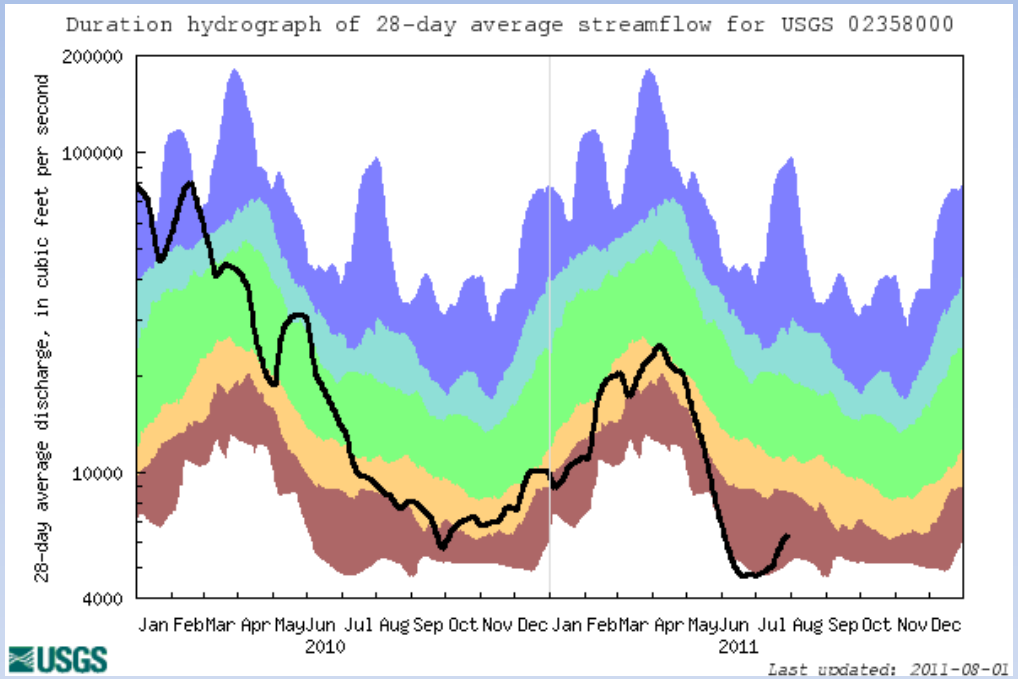
Flint at Bainbridge (02356000)

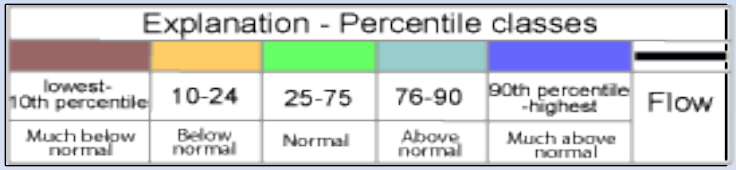


Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile -highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

Streamflows

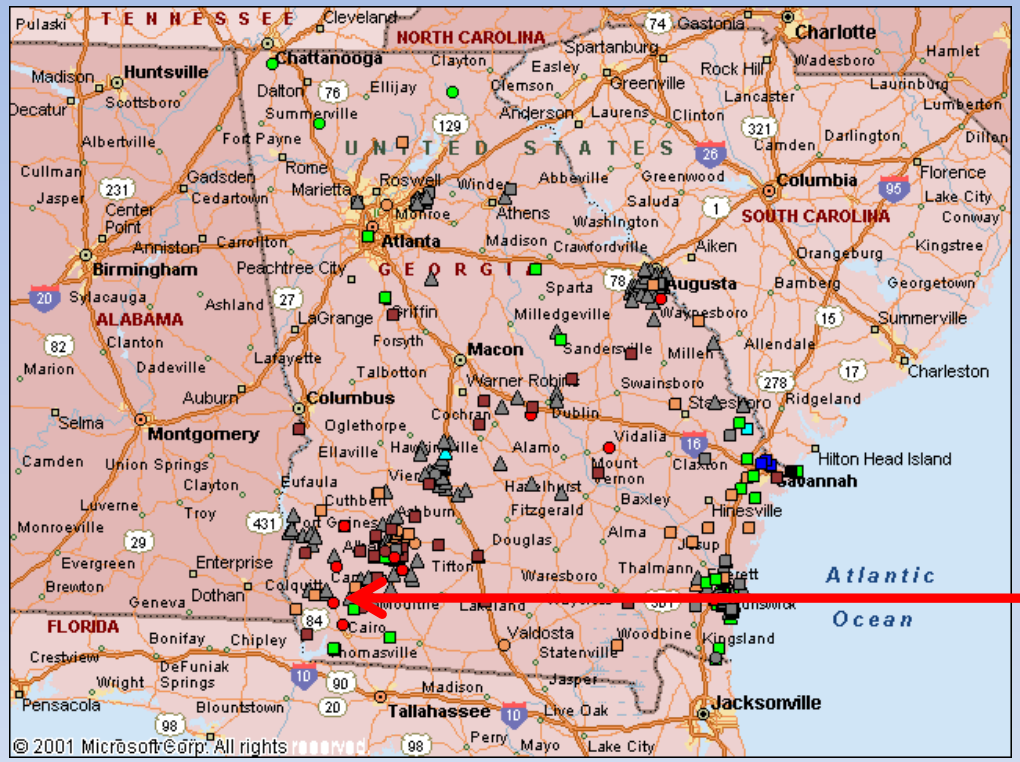
Apalachicola at Chattahoochee (02358000)

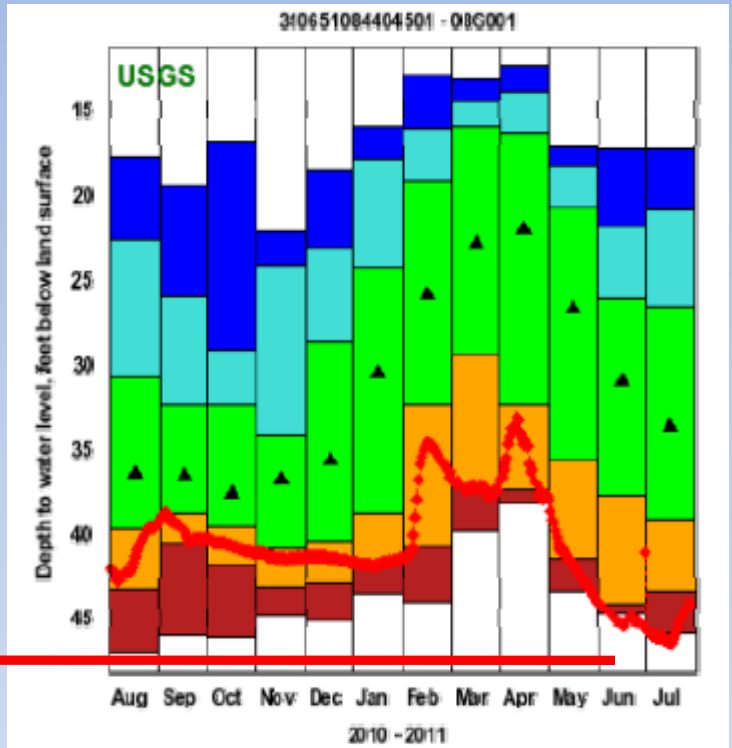




http://waterwatch.usgs.gov

Groundwater Status





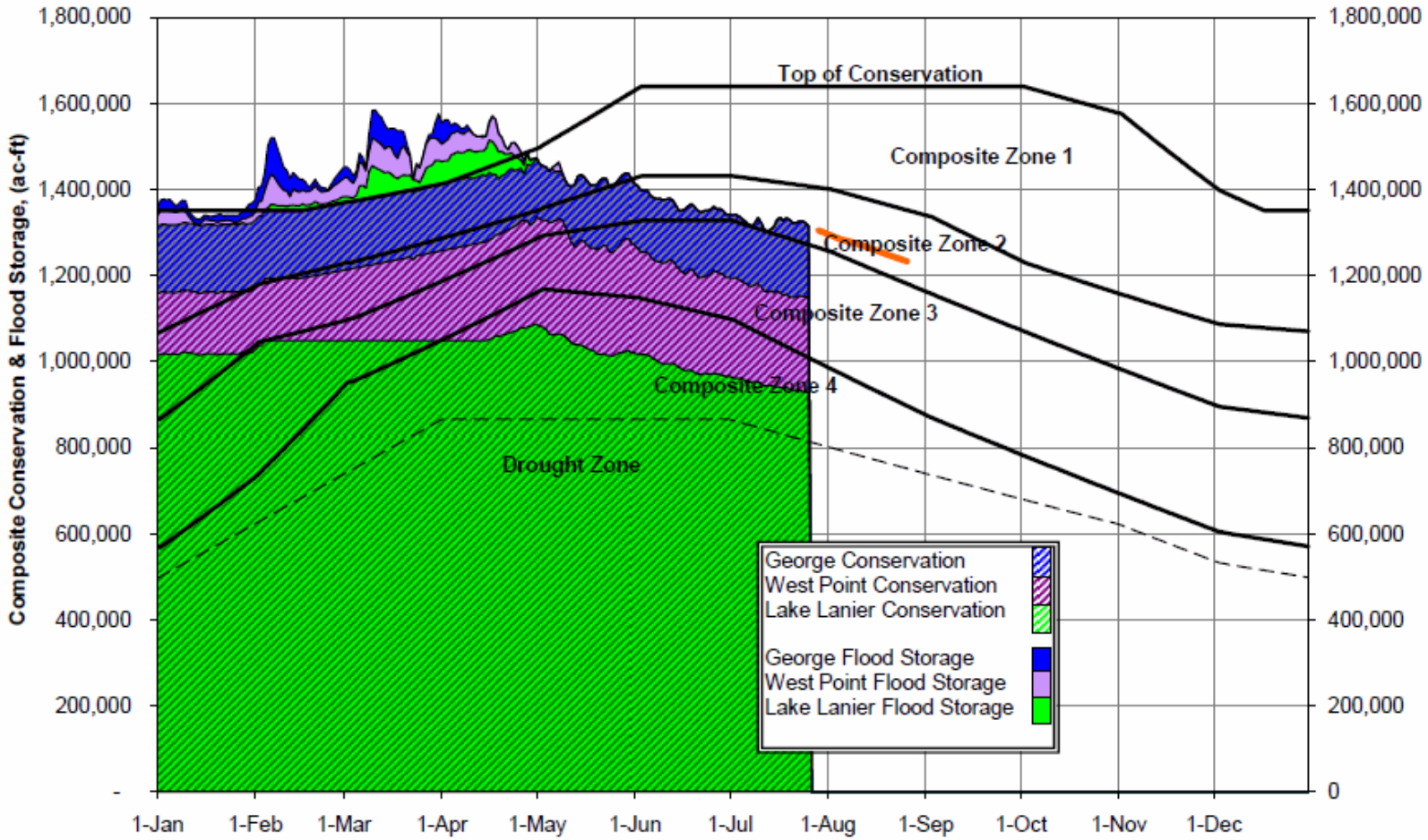
Explanation - Percentile classes (symbol color based on most recent measurement)			
	<10	10-24	
Low	Much Below Normal	Below Normal	

- ○ Real Time
- □ Continuous
- △ Periodic Measurements

Miller County, GA
(Upper Floridan Aquifer)

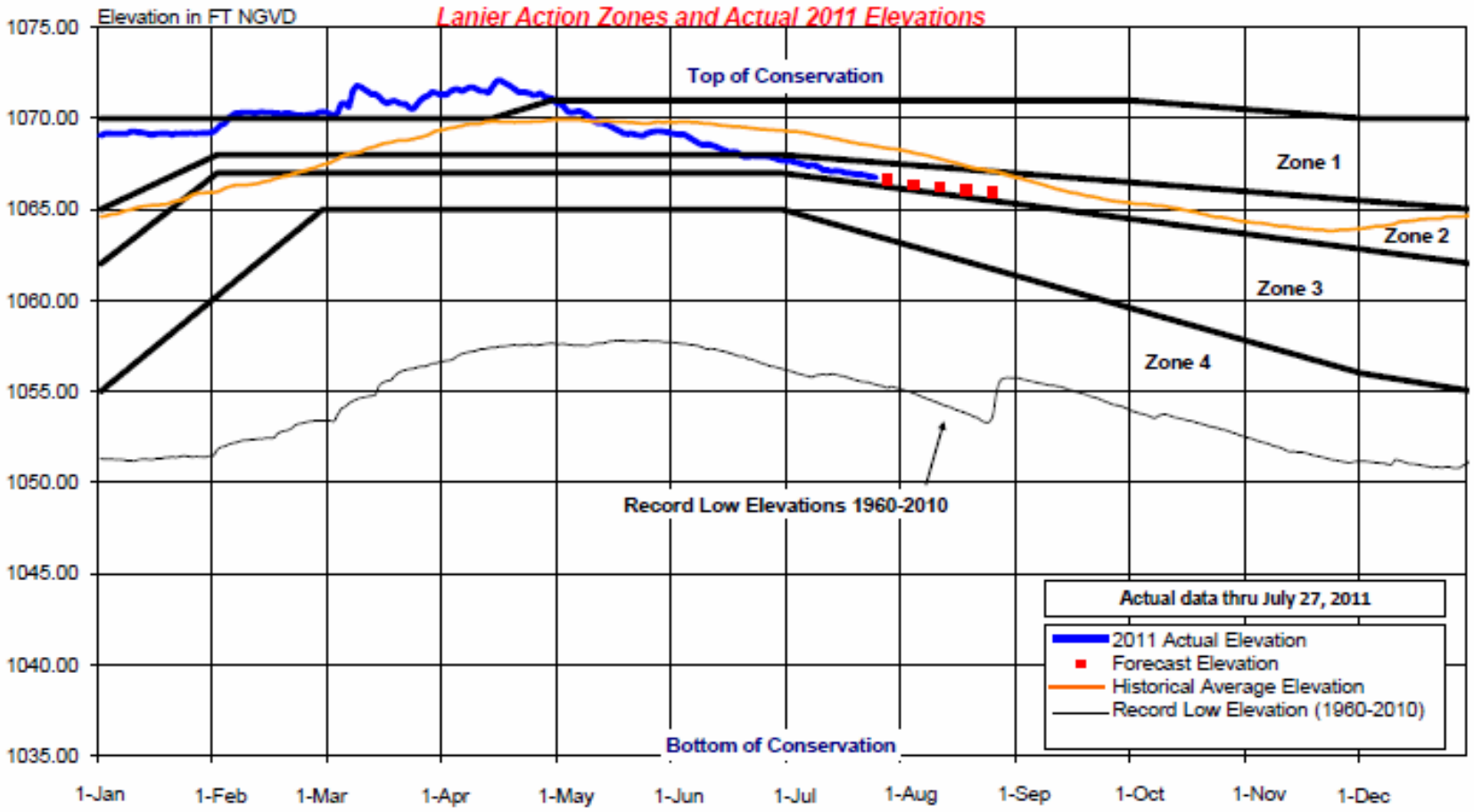
http://groundwaterwatch.usgs.gov

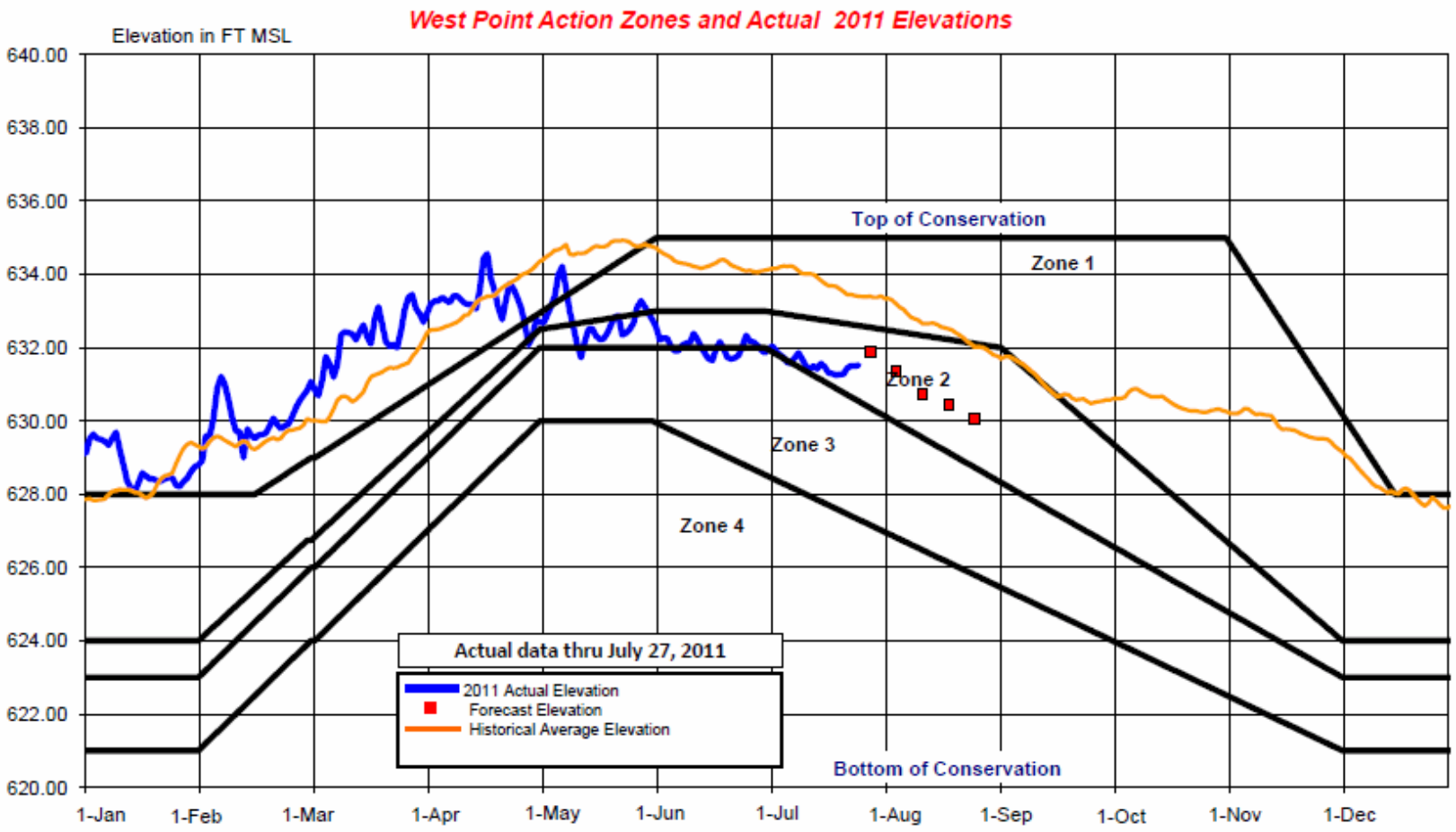
2011 ACF Basin Composite Conservation & Flood Storage

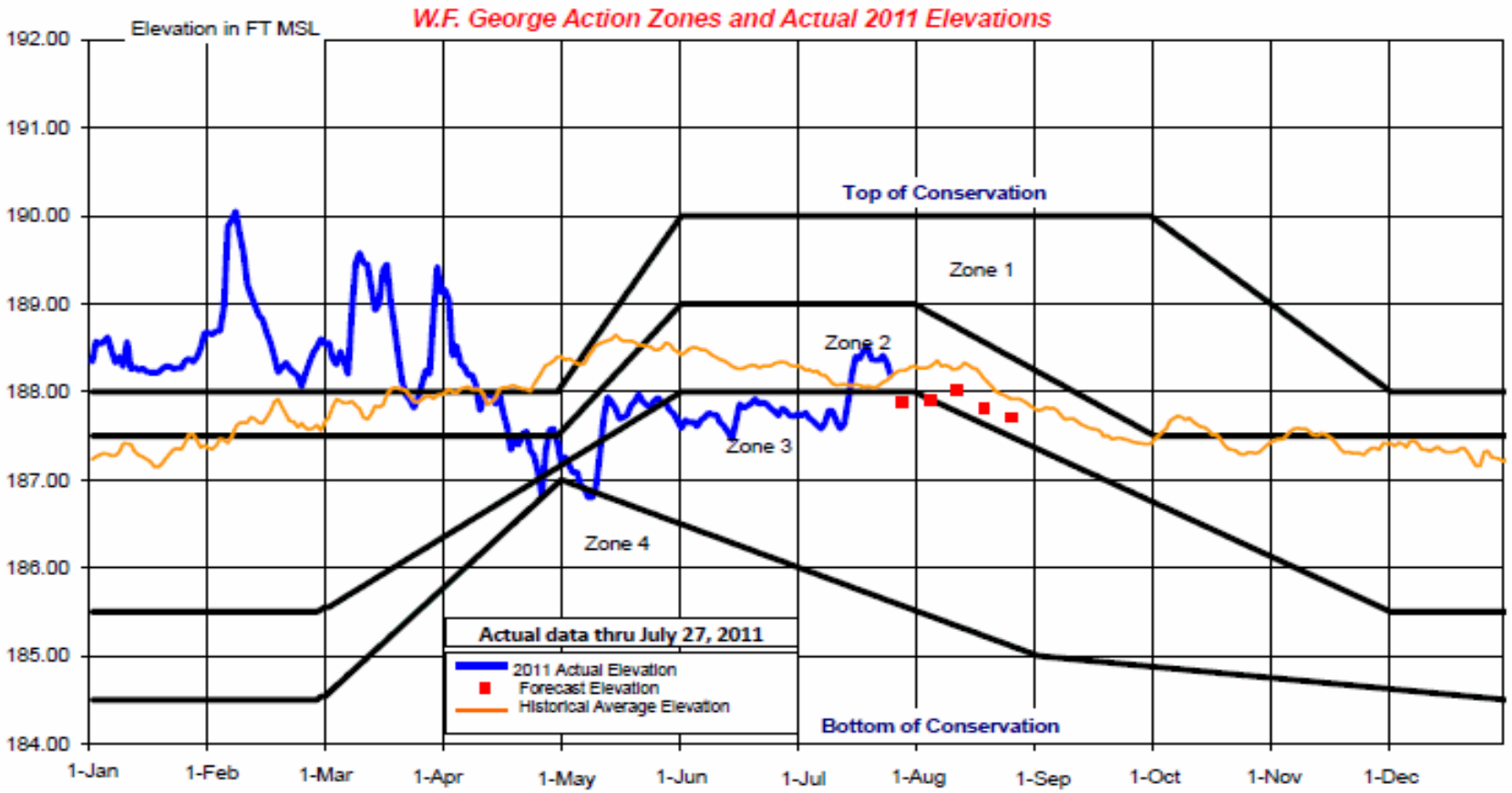


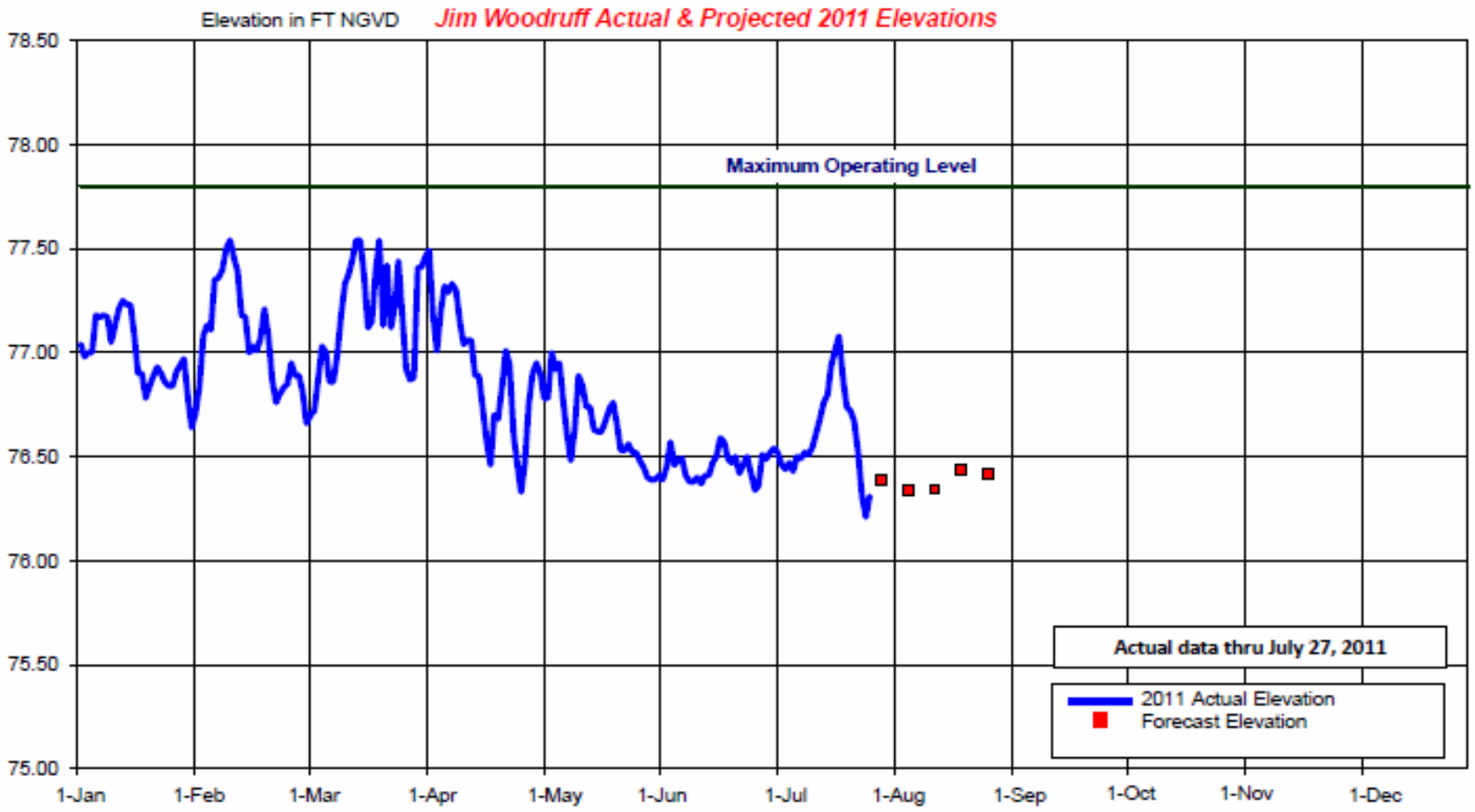
Actual data through 7-27-2011

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

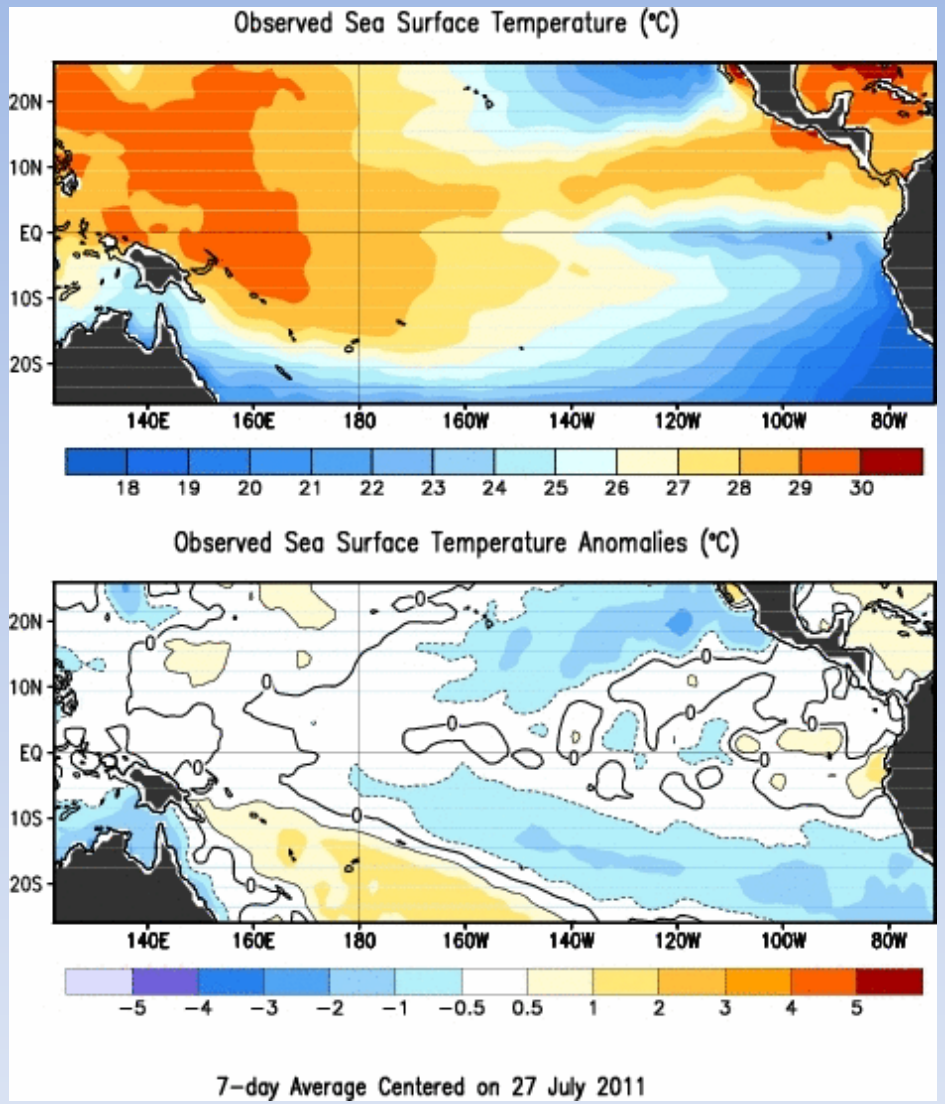

Elevation in FT NGVD
Lanier Action Zones and Actual 2011 Elevations
1075.00
1070.00
1065.00
1060.00
1055.00
1050.00
1045.00
1040.00
1035.00
Top of Conservation
Zone 1
Zone 2
Zone 3
Zone 4
Record Low Elevations 1960-2010
Bottom of Conservation
Actual data thru July 27, 2011
2011 Actual Elevation
Forecast Elevation
Historical Average Elevation
Record Low Elevation (1960-2010)
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec


West Point Action Zones and Actual 2011 Elevations
Elevation in FT MSL
640.00
638.00
636.00
634.00
632.00
630.00
628.00
626.00
624.00
622.00
620.00
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec
Top of Conservation
Zone 1
Zone 2
Zone 3
Zone 4
Bottom of Conservation
Actual data thru July 27, 2011
2011 Actual Elevation
Forecast Elevation
Historical Average Elevation


W.F. George Action Zones and Actual 2011 Elevations
Elevation in FT MSL
192.00
191.00
190.00
189.00
188.00
187.00
186.00
185.00
184.00
Top of Conservation
Zone 1
Zone 2
Zone 3
Zone 4
Bottom of Conservation
Actual data thru July 27, 2011
2011 Actual Elevation
Forecast Elevation
Historical Average Elevation
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec

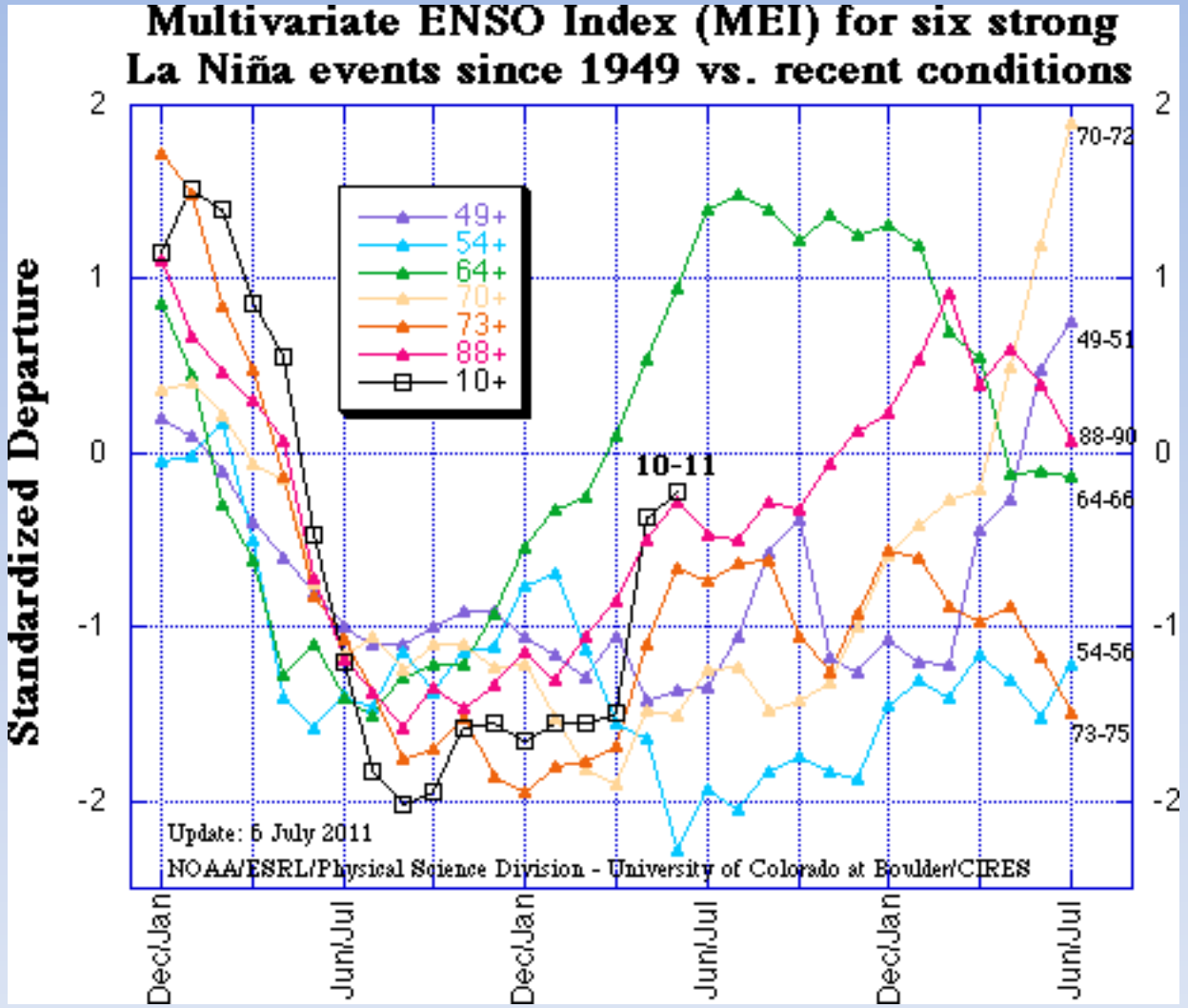

Elevation in FT NGVD
Jim Woodruff Actual & Projected 2011 Elevations
78.50
78.00
77.50
77.00
76.50
76.00
75.50
75.00
Maximum Operating Level
Actual data thru July 27, 2011
2011 Actual Elevation
Forecast Elevation
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec

7-day average Pacific Ocean SST Anomalies



http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/enso.shtml

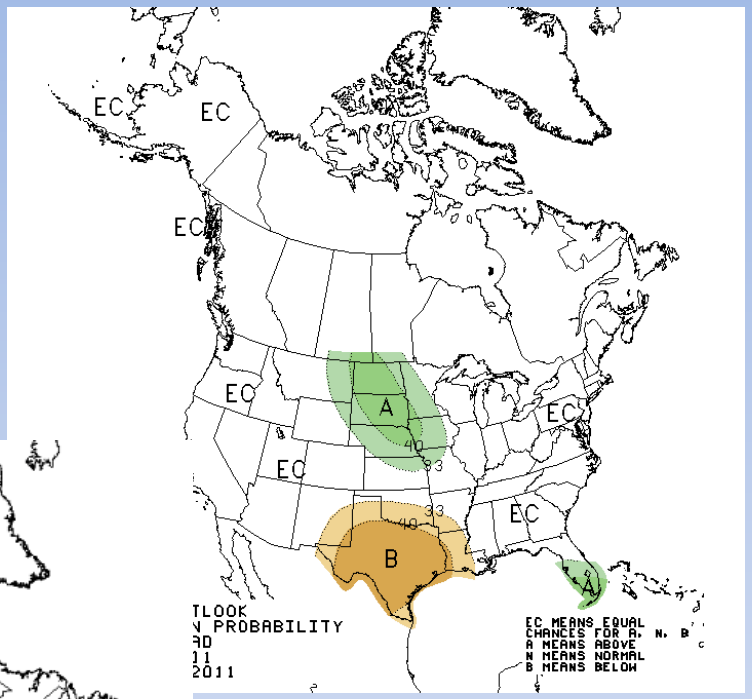
Multivariate ENSO Index: recent and six strong La Niña events



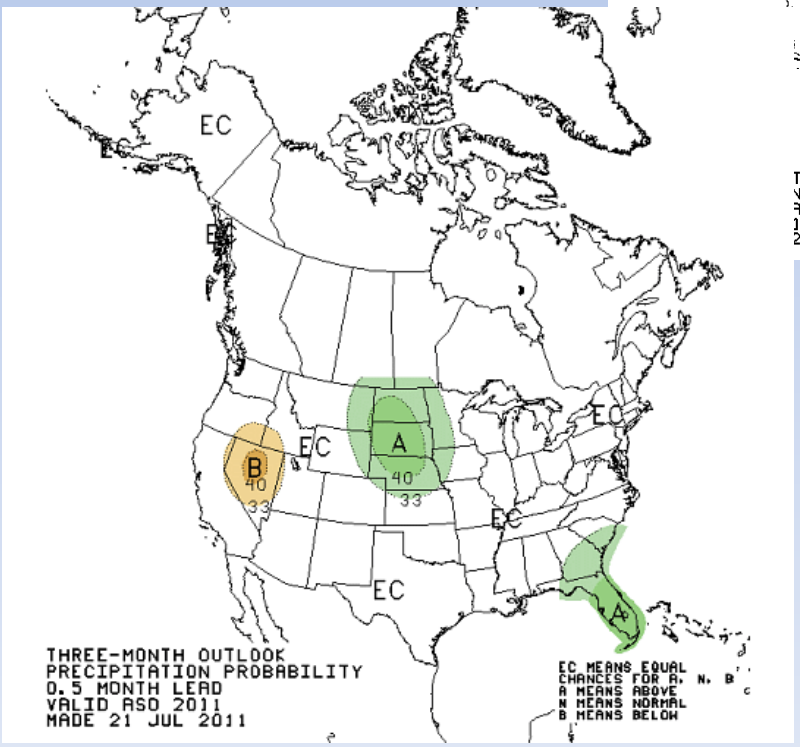
http://www.esrl.noaa.gov/psd/people/klaus.wolter/MEI/

Precipitation Outlooks

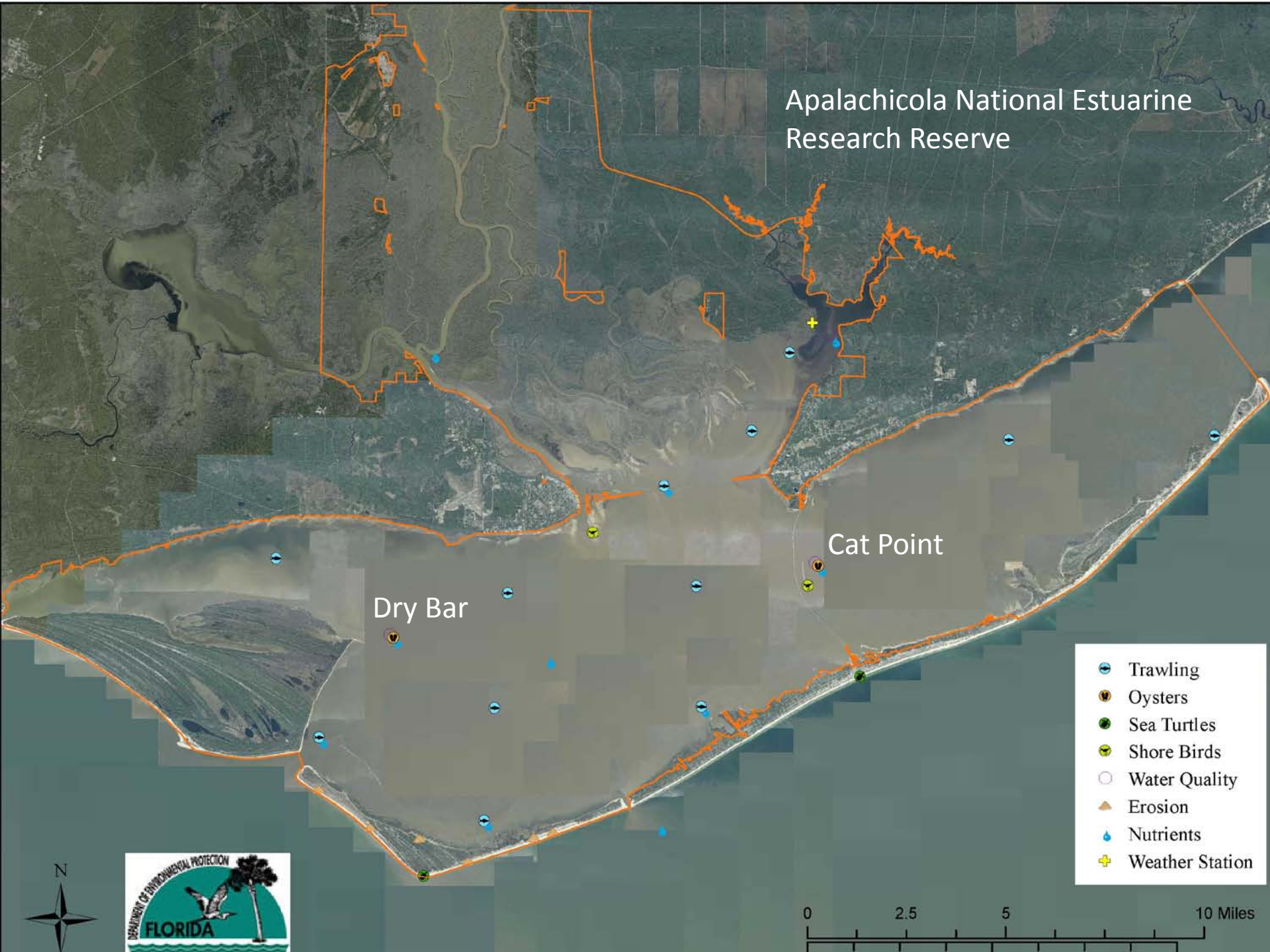
1-month



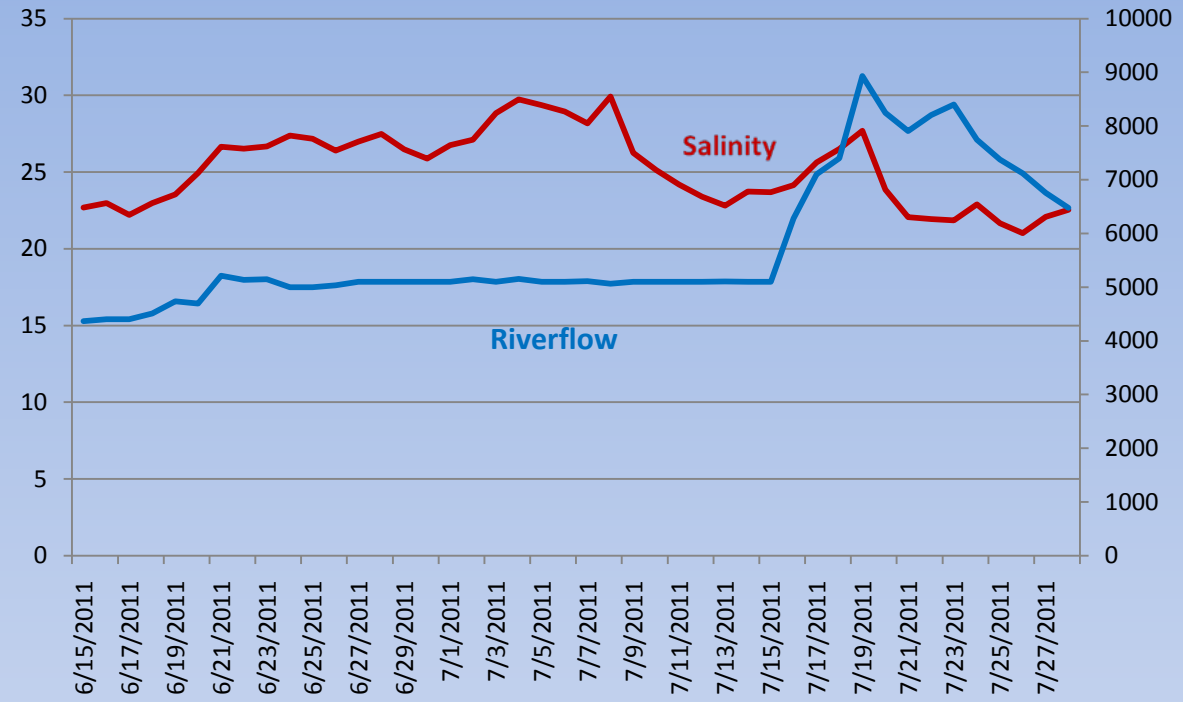
3-month



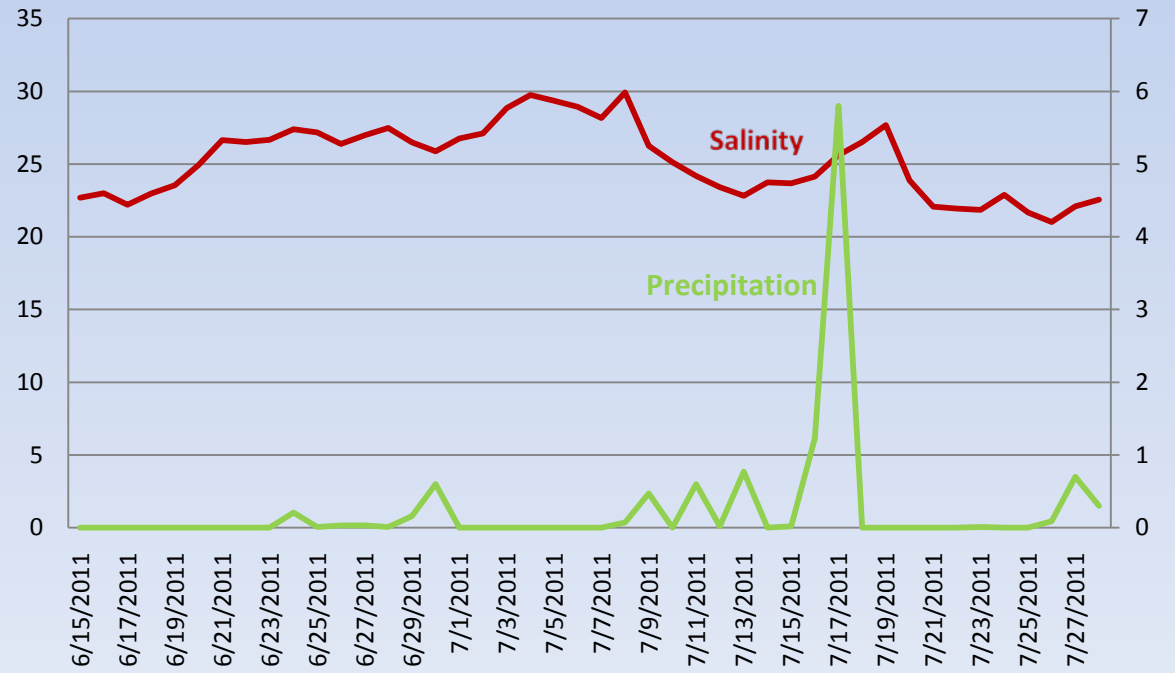
http://www.cpc.ncep.noaa.gov/products/predictions/30day/


Apalachicola National Estuarine Research Reserve
Cat Point
Dry Bar
Trawling
Oysters
Sea Turtles
Shore Birds
Water Quality
Erosion
Nutrients
Weather Station
N
0
2.5
5
10 Miles
DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA

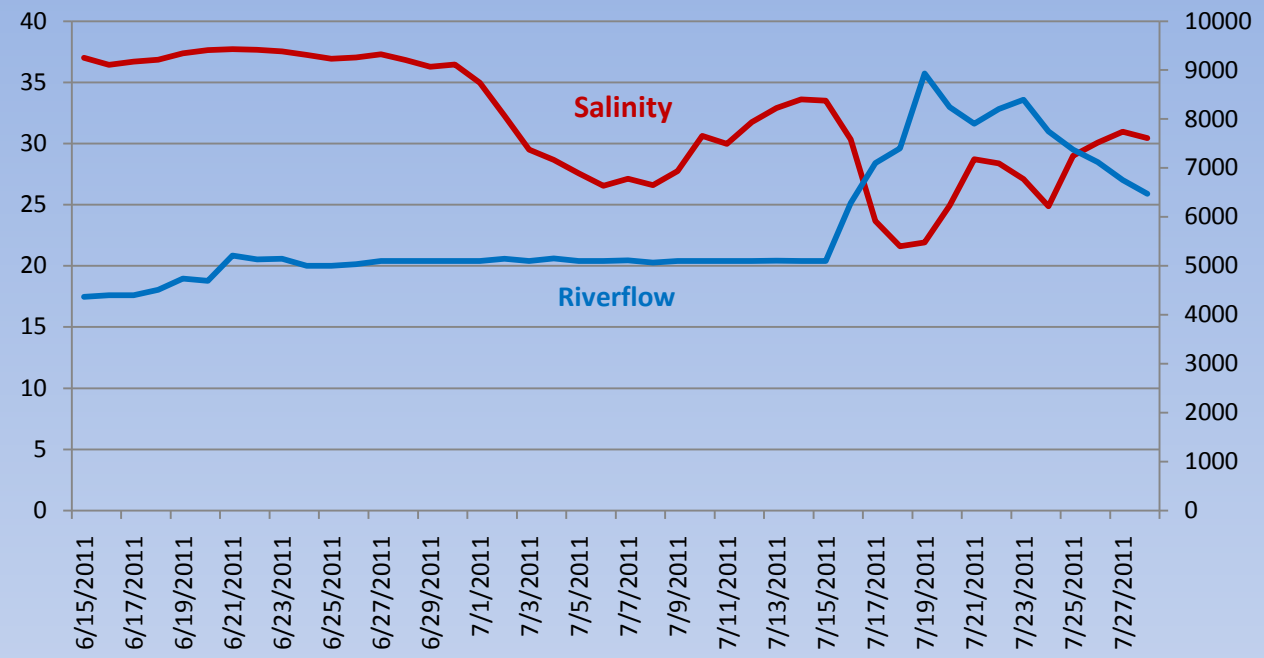
Cat Point Average Daily Salinity 6/15/11 - 7/28/11 (w/average daily riverflow data from Chattahoochee, FL)



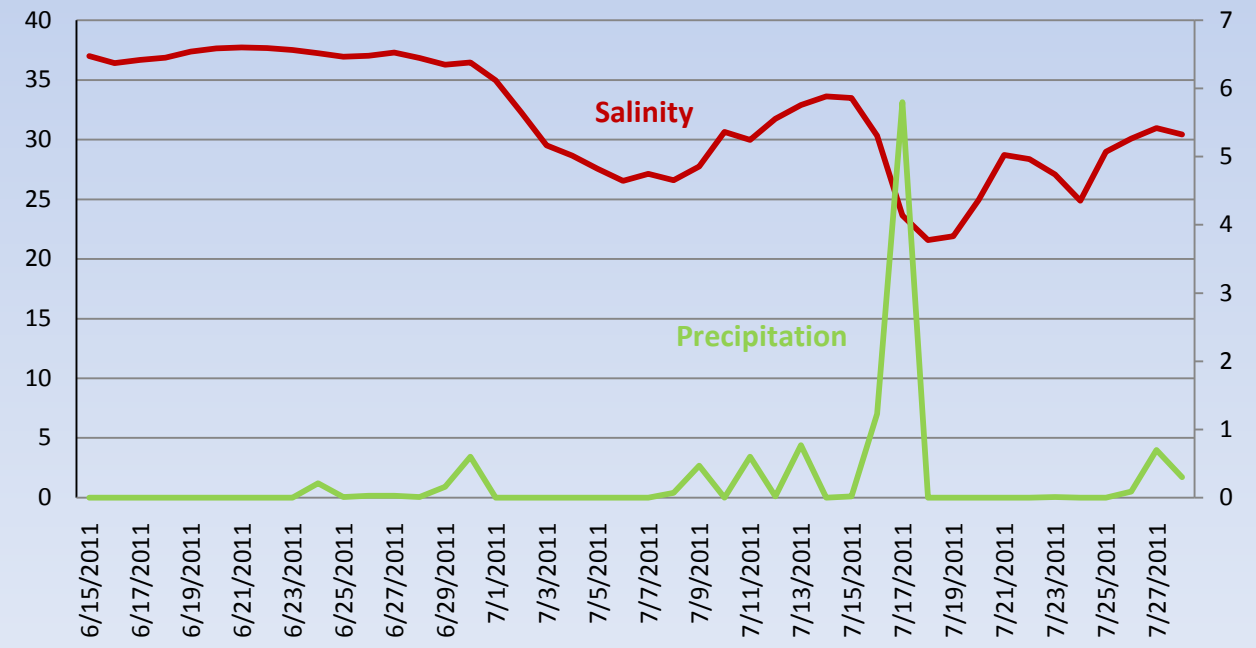
Cat Point Average Daily Salinity 6/15/11- 7/28/11 (w/average daily precipitation data from Apalachicola airport)



Dry Bar Daily Average Salinity 6/15/11-7/28/11 (w/daily average riverflow data from Chattahoochee, FL)

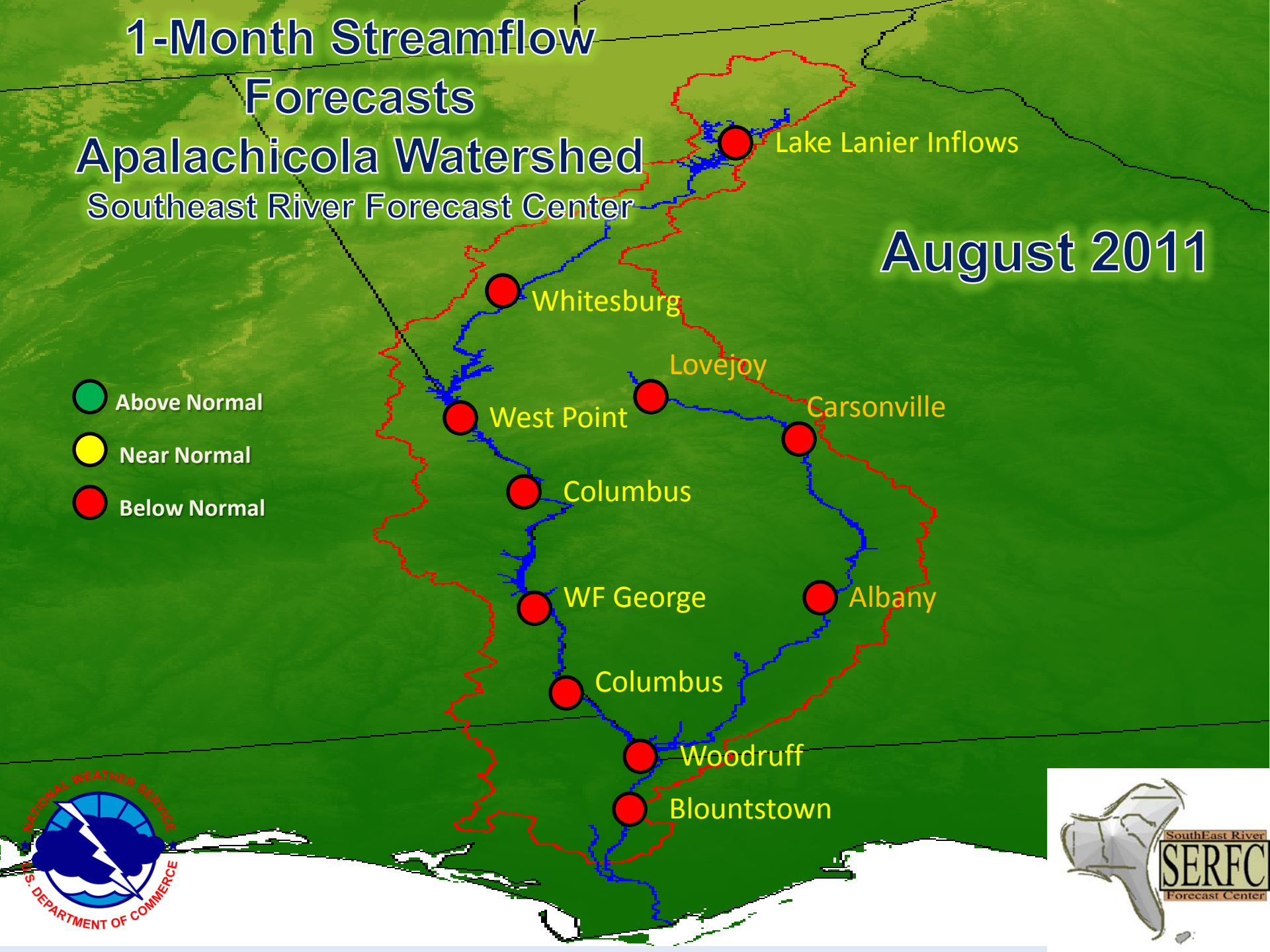


Dry Bar Daily Average Salinity 6/15/11 - 7/28/11 (w/daily average precipitation data from Apalachicola airport)

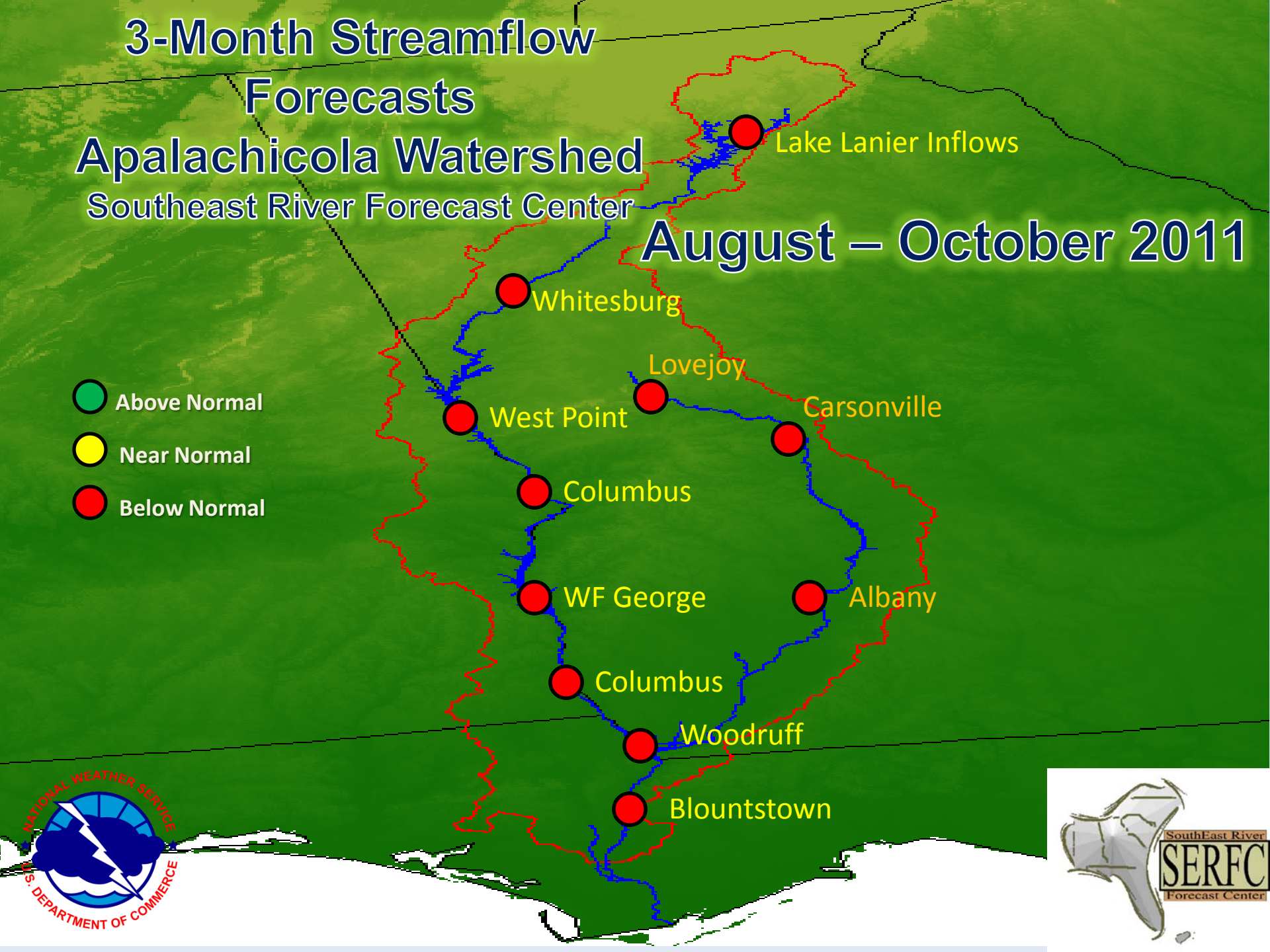


1-Month Streamflow Forecasts
Apalachicola Watershed
Southeast River Forecast Center

August 2011



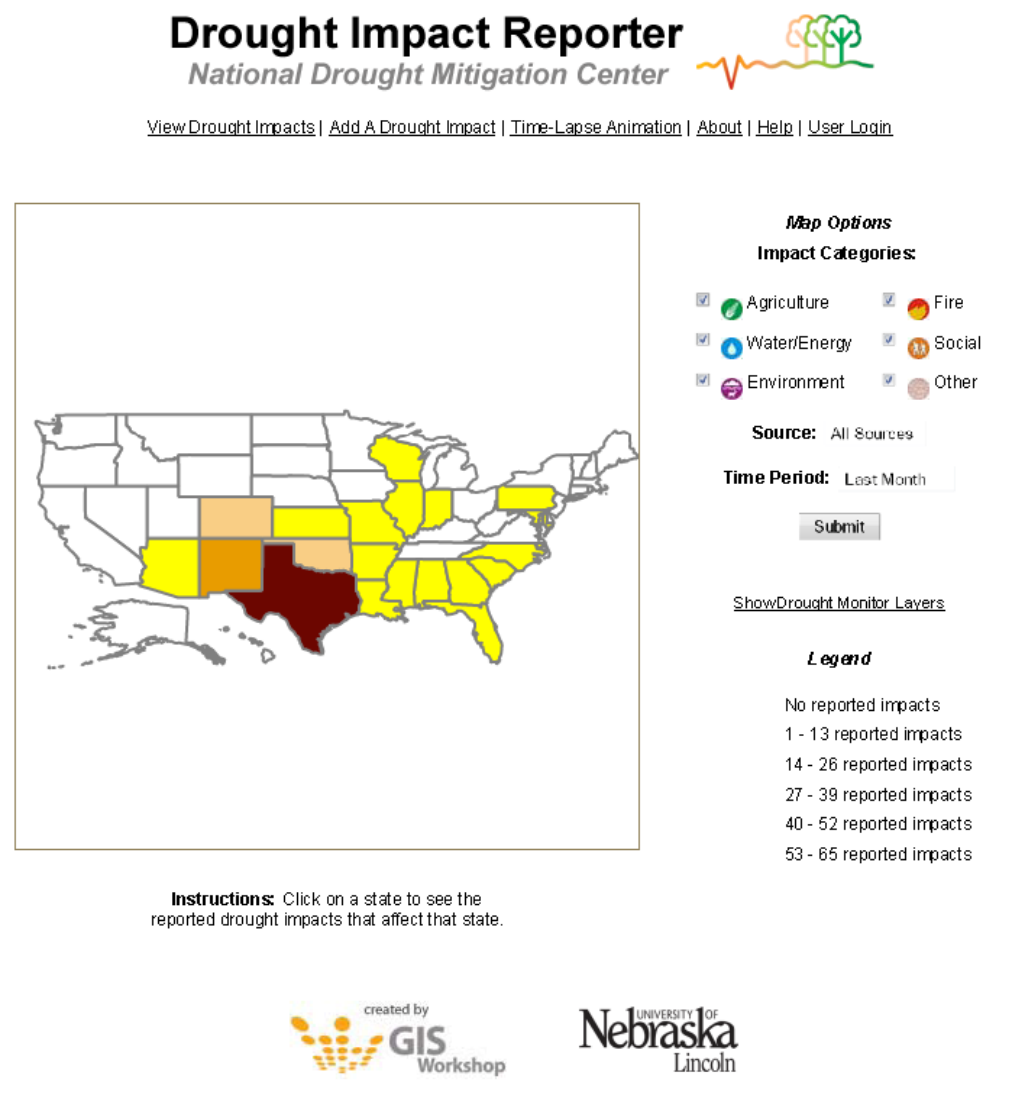
3-Month Streamflow Forecasts
Apalachicola Watershed
Southeast River Forecast Center
August – October 2011



Drought Impact Reporter

http://droughtreporter.unl.edu

Submit your drought impacts through the NDMC Drought Impact Reporter. Click on “Add a drought impact” and fill out the online form.



Summary

- Drought continues to be severe to exceptional in the southern part of the basin
- Rainfall during the previous week was irregularly distributed, with 0.1 to 1 inches falling in different parts of the basin; 5-day precipitation forecast doesn't look good.
- Current streamflows are in the 10 to 24 percentile in much of the basin
- Groundwater levels are in the bottom 10 percentile in the lower basin
- Lake levels seems to be dropping most of the reservoirs; Lakes Lanier and West Point continues to be below historical average elevation; W.F. George is at hear historical average elevation.
- Multivariate ENSO Index shows that we are in Neutral conditions now. Neutral conditions are expected to continue for the next few months.
- 1-month and 3-month precipitation outlook suggests that there is equal chance of above, below, and normal precipitation in the basin. However, streamflows in the basin are expected to be below normal.

References

Speakers

David Zierden, FSU

Chris Smith, USGS

Rob Erhardt, USACE

Jennifer Wanat, NERR/FDEP

Jeffrey Dobur, SERFC

Joel Lanier, NWS

Moderator

Puneet Srivastava, SECC/Auburn U

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

http://waterwatch.usgs.gov

Groundwater monitoring

http://groundwaterwatch.usgs.gov