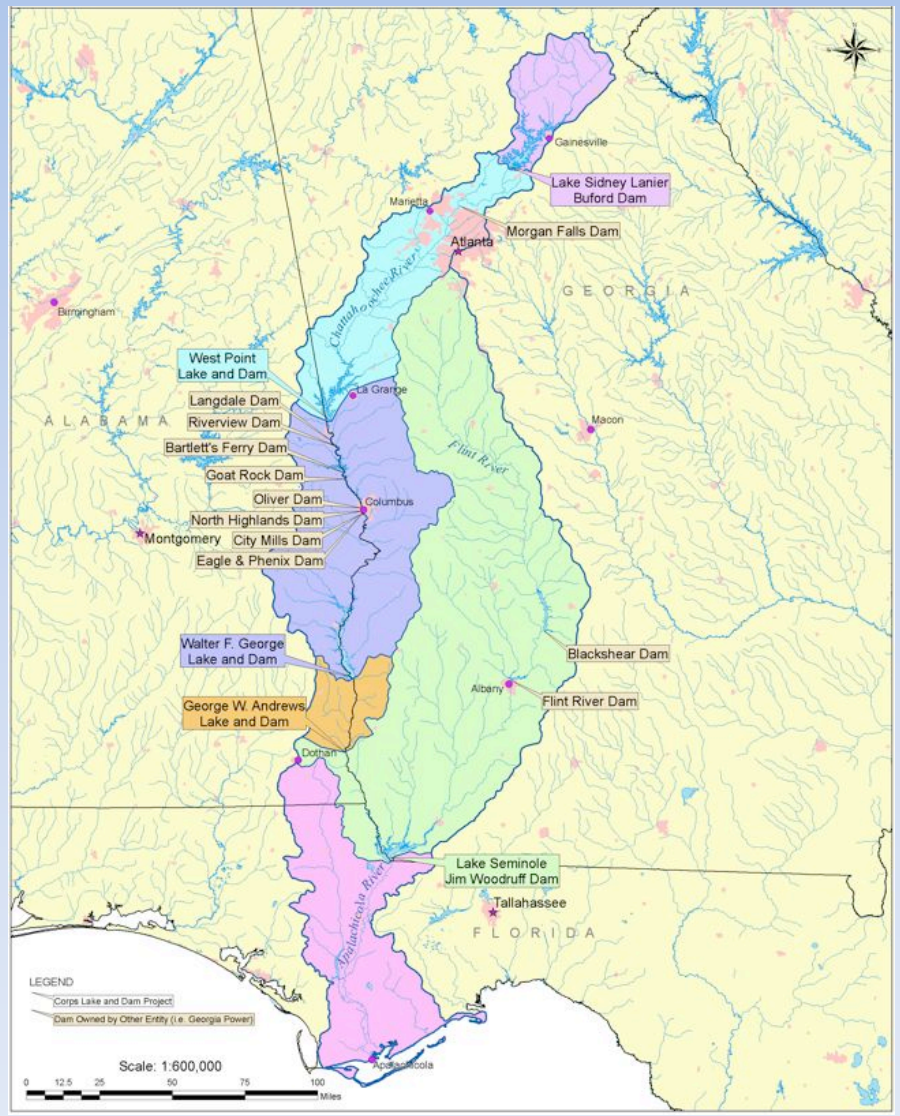
National Integrated Drought Information System

Southeast US Pilot for Apalachicola-Flint-Chattahoochee River Basin

21 June 2011



Current drought status from Drought Monitor

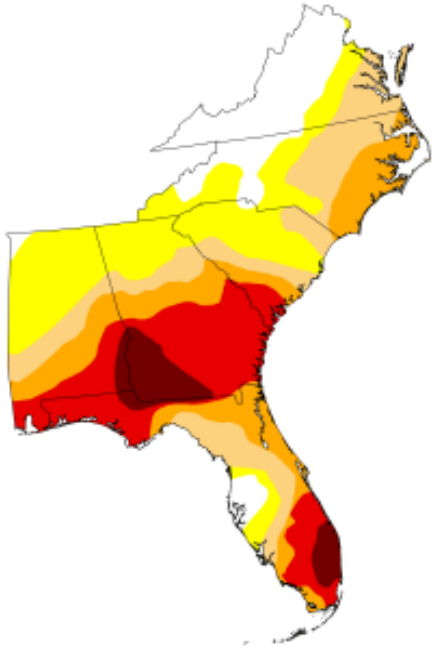
U.S. Drought Monitor

June 14, 2011
Valid 7 a.m. EST

Southeast

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	14.22	85.78	60.44	41.28	24.54	5.90
Last Week (06/07/2011 map)	19.53	80.47	56.67	37.28	21.58	2.72
3 Months Ago (03/15/2011 map)	14.36	85.64	57.95	22.18	4.64	0.00
Start of Calendar Year (12/28/2010 map)	23.01	76.99	51.84	23.55	5.63	0.00
Start of Water Year (09/28/2010 map)	18.18	81.82	38.04	10.32	0.90	0.00
One Year Ago (06/08/2010 map)	94.62	5.38	0.00	0.00	0.00	0.00



Intensity:

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

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

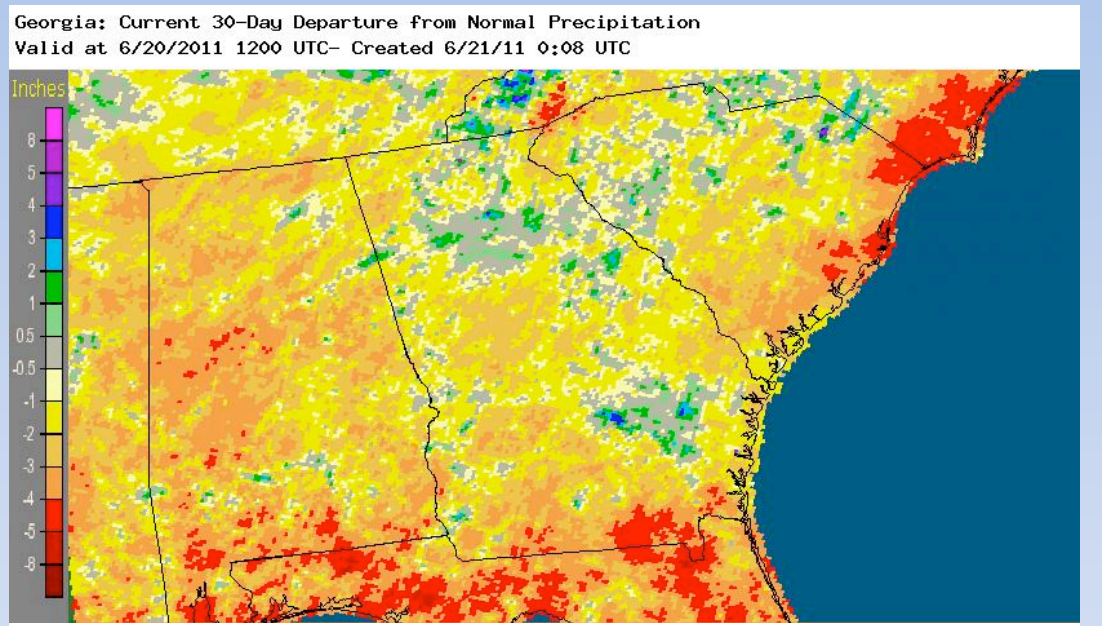
http://drought.unl.edu/dm

Released Thursday, June 16, 2011
Brian Fuchs, National Drought Mitigation Center

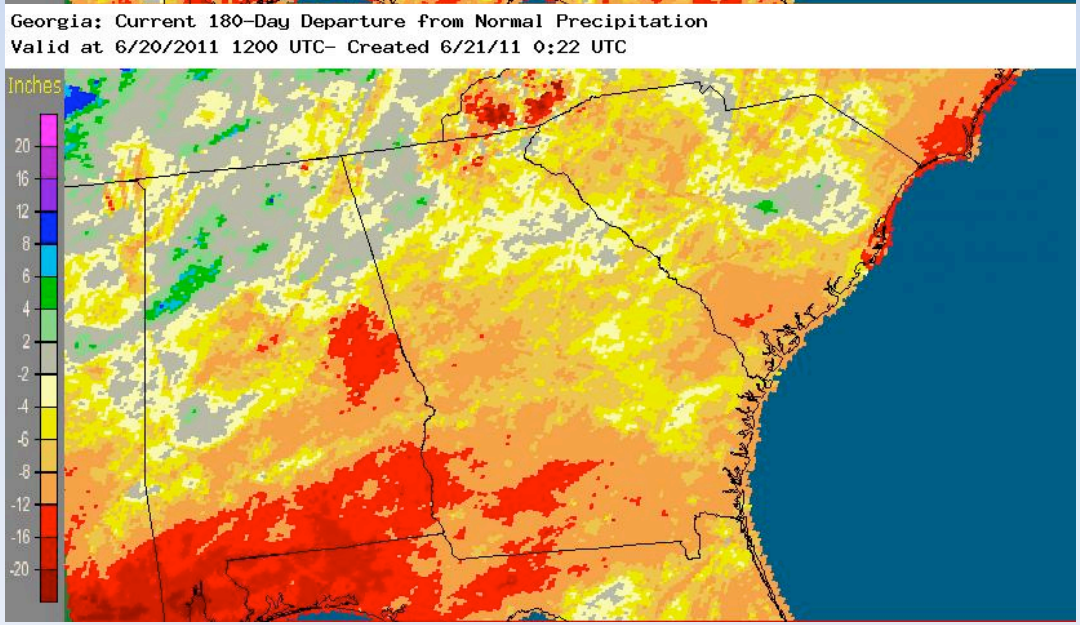
http://www.drought.unl.edu/dm/monitor.html

Cumulative Rainfall Deficits

Past 30 days

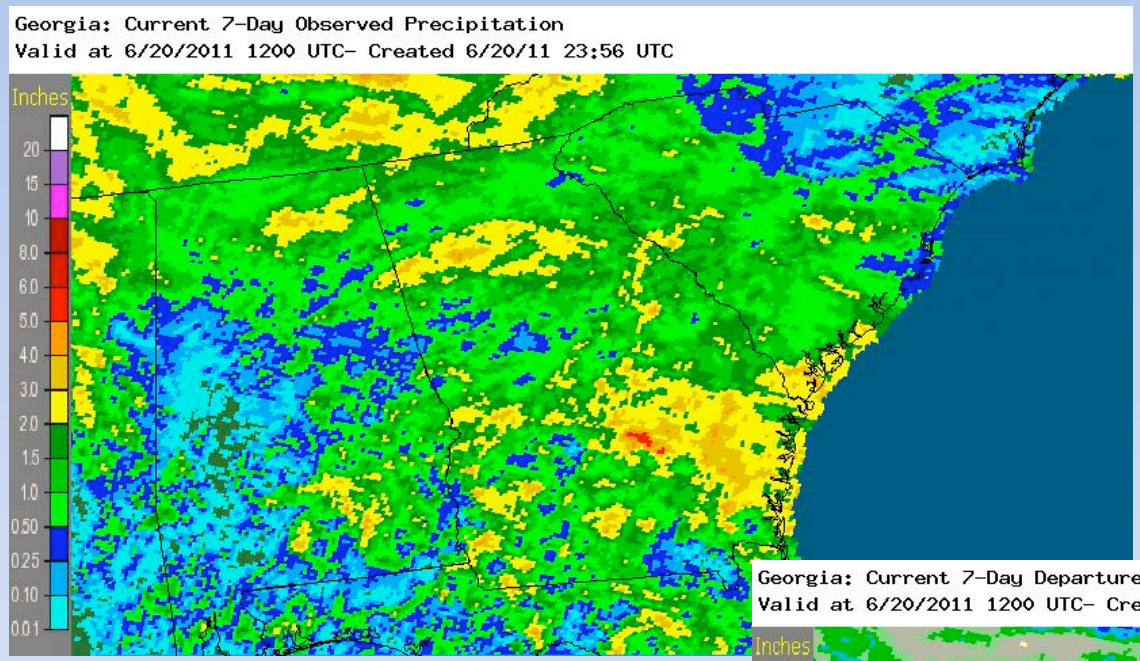


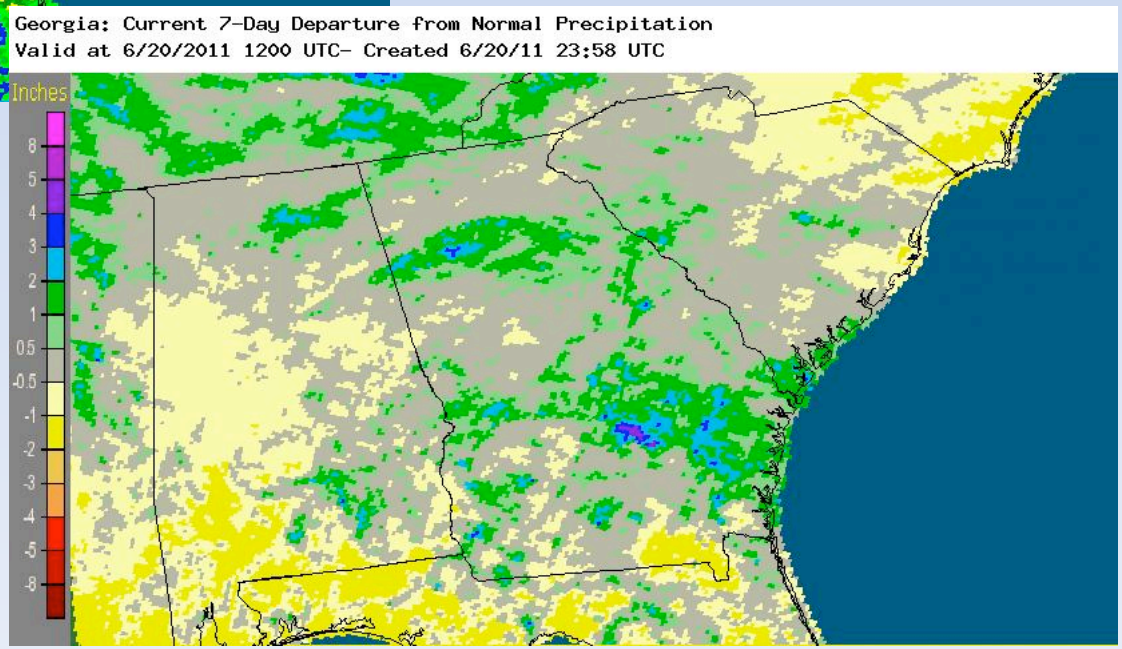
Past 180 days



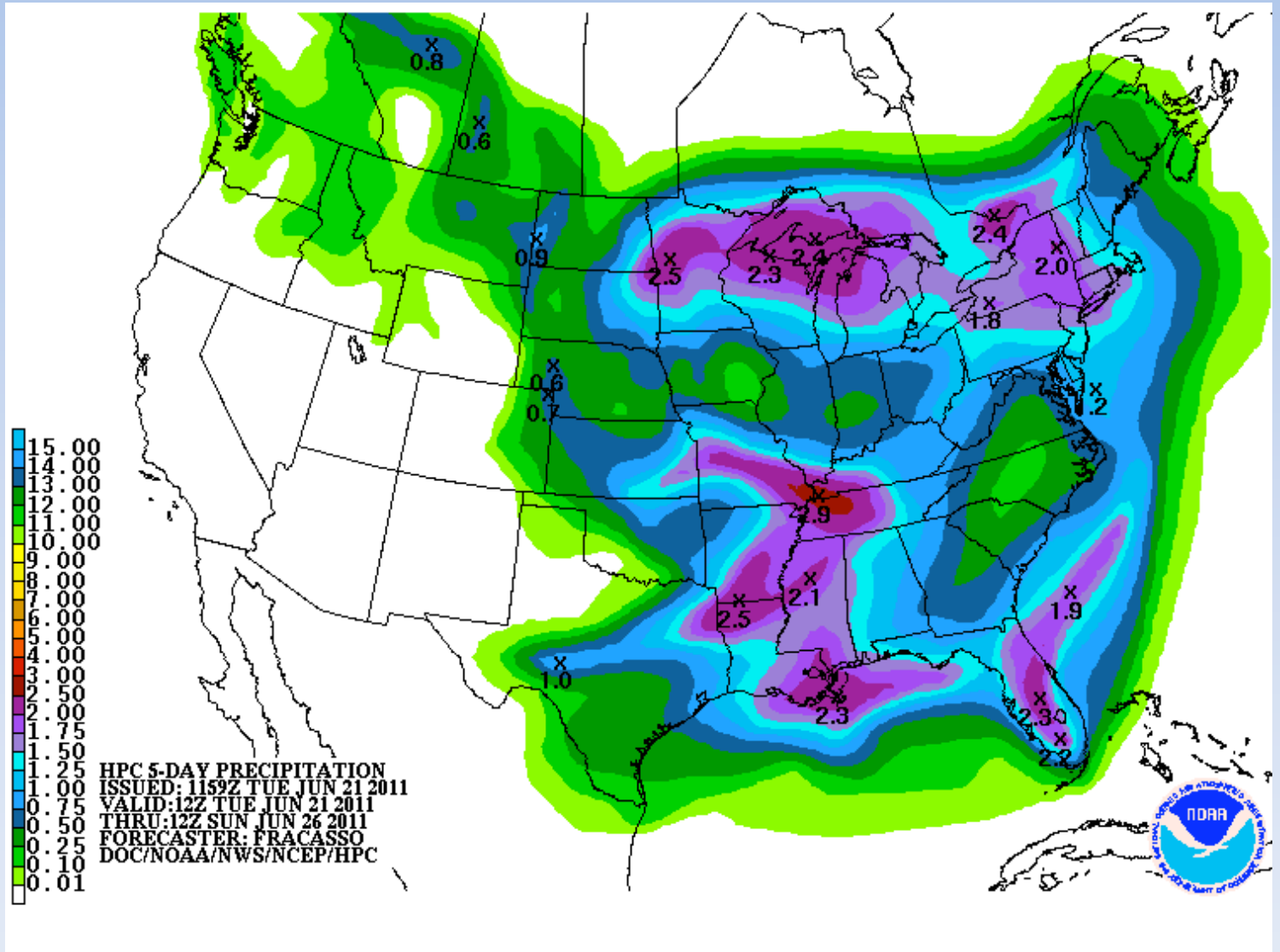
http://water.weather.gov/precip/

7-day Rainfall Totals





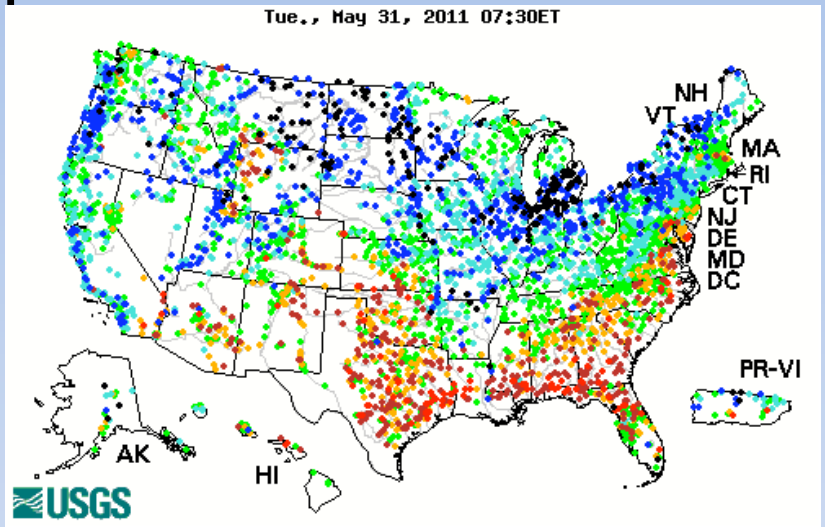
5-Day Precipitation Forecast



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

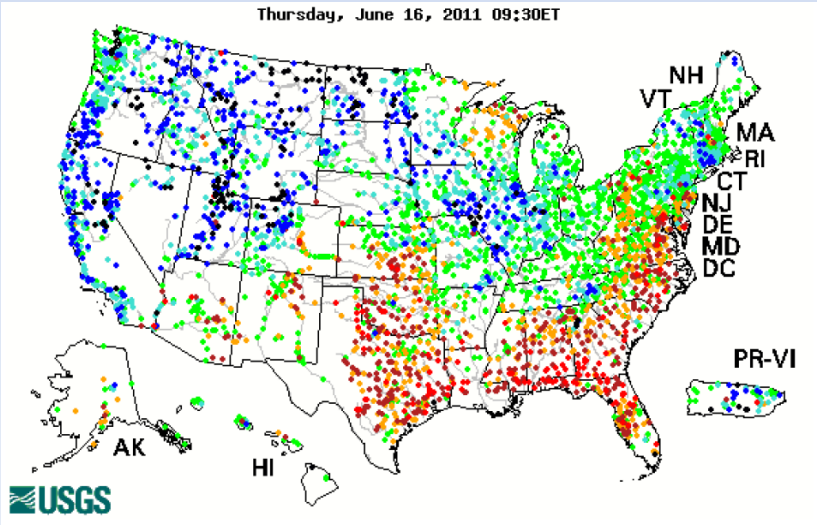
Realtime stream flow compared with historical averages

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	

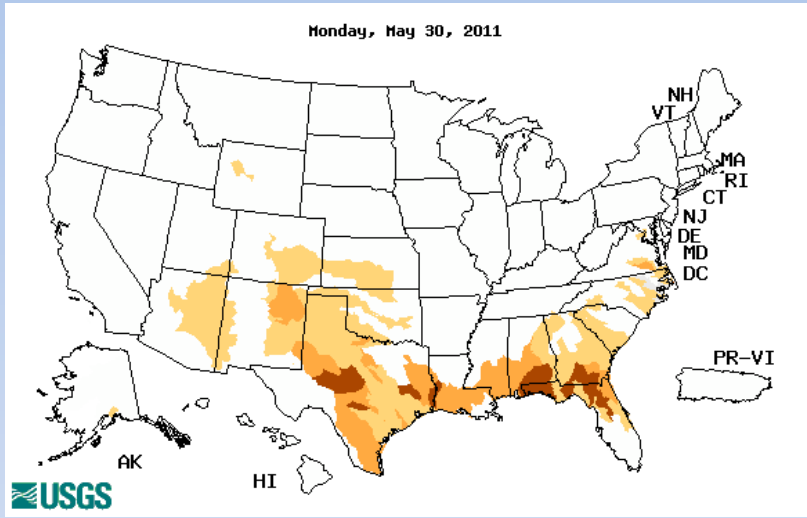
Current:



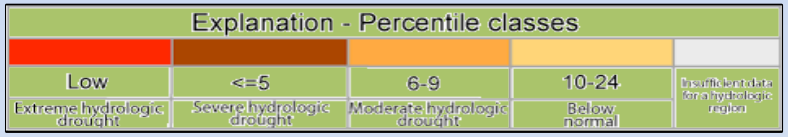
http://waterwatch.usgs.gov

Below Normal 7-day Average Streamflows

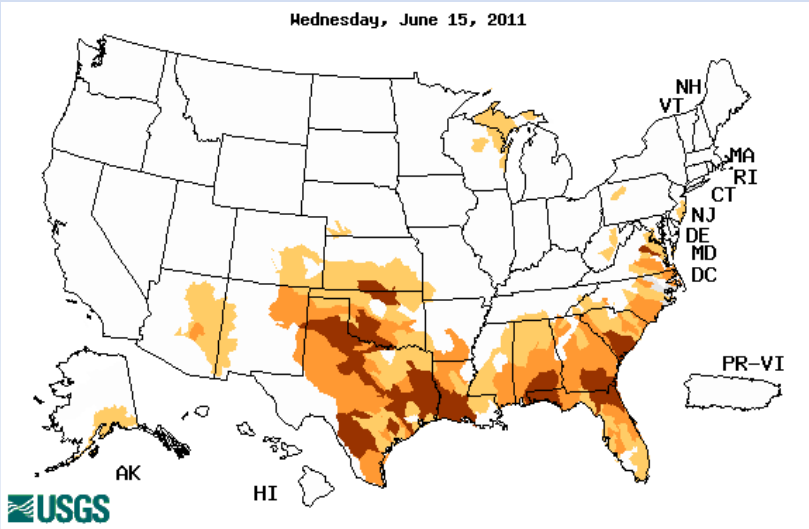
Previous month:



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



Current:



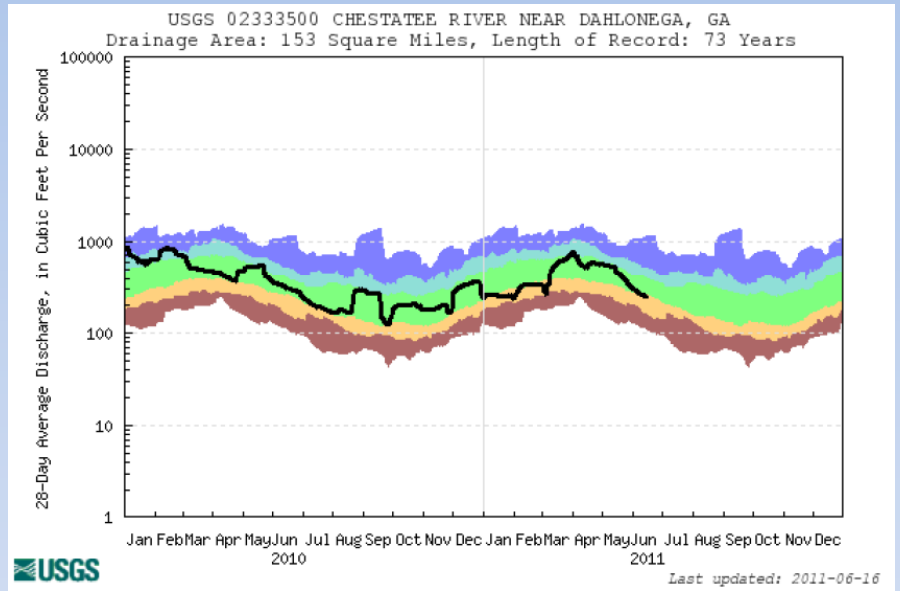
http://waterwatch.usgs.gov

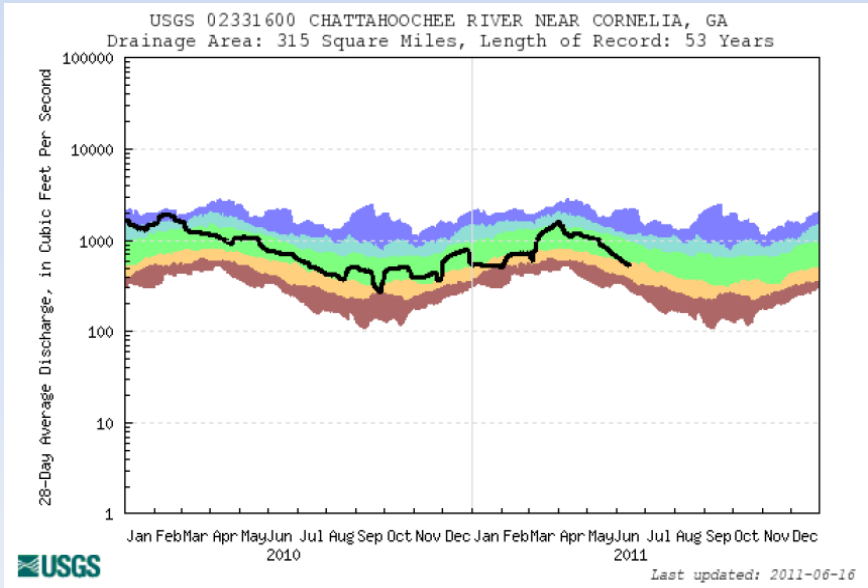
Lake Lanier Inflows

Chestatee near Dahlonega (02333500)

http://waterwatch.usgs.gov

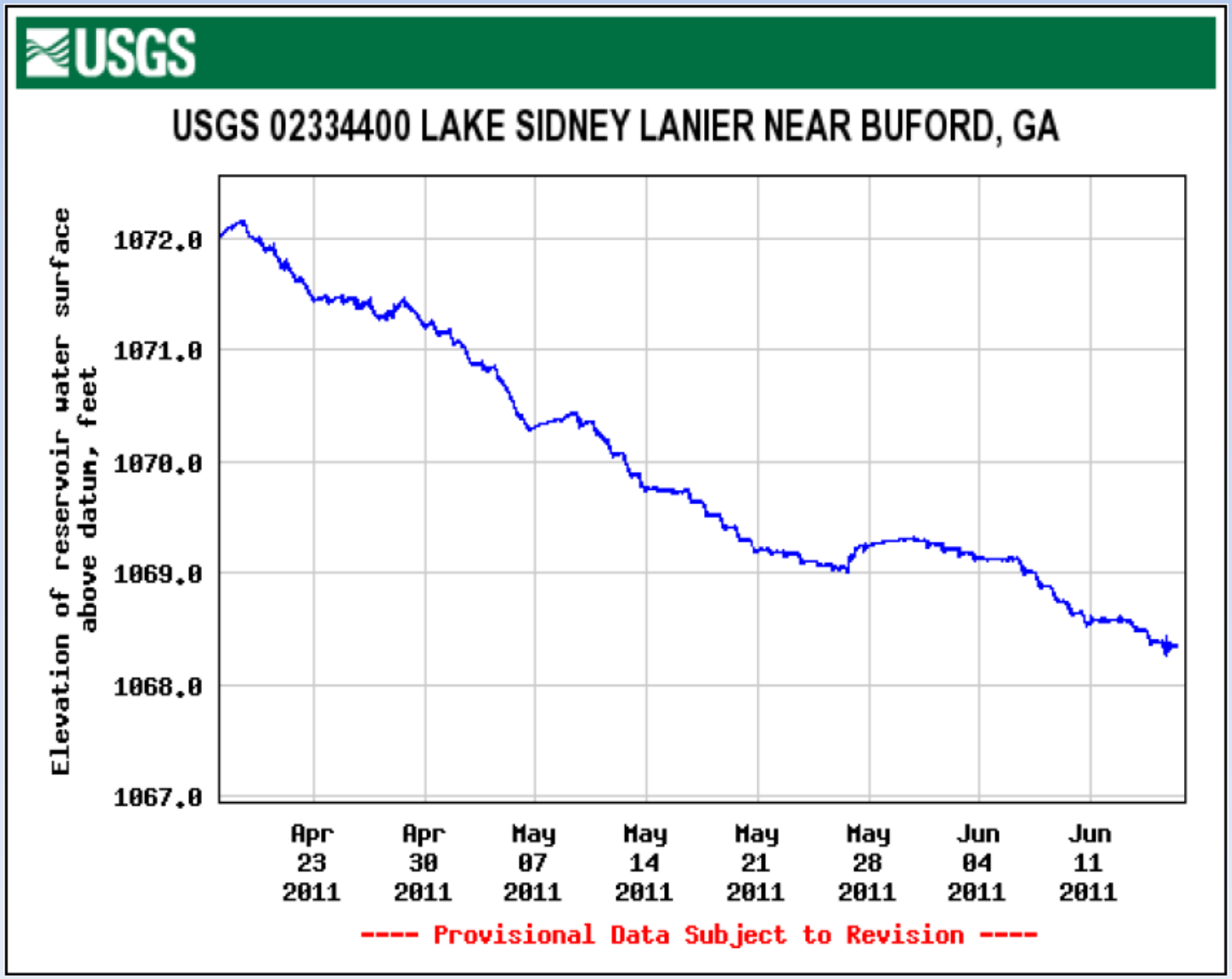
Chattahoochee near Cornelia (02331600)





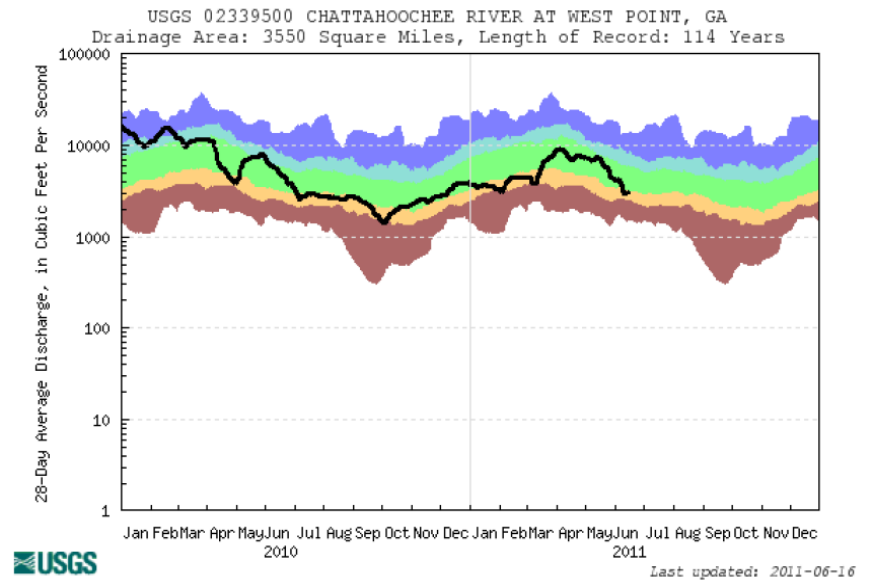
Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile -highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

Lake Lanier Levels (02334400) for Previous 60 Days



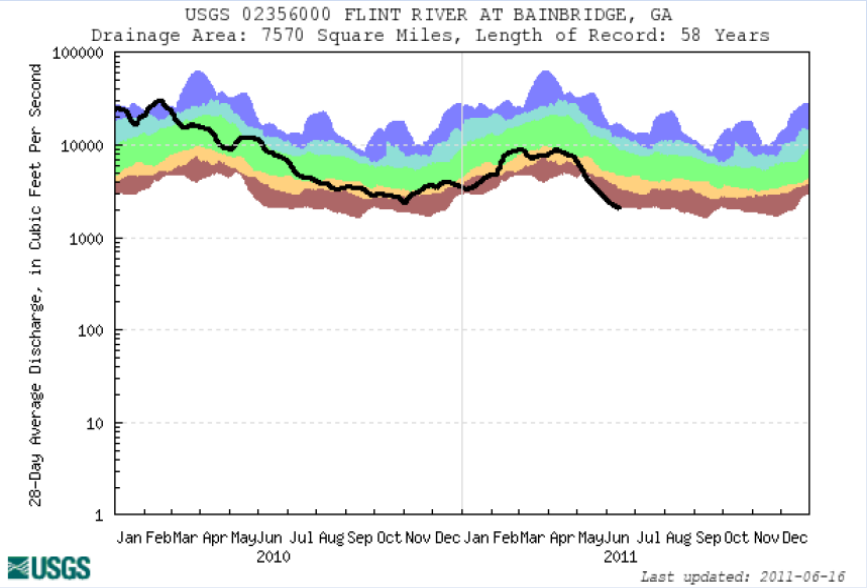
Current Streamflows

Chattahoochee at West Point (02339500)



http://waterwatch.usgs.gov

Flint at Bainbridge (02356000)

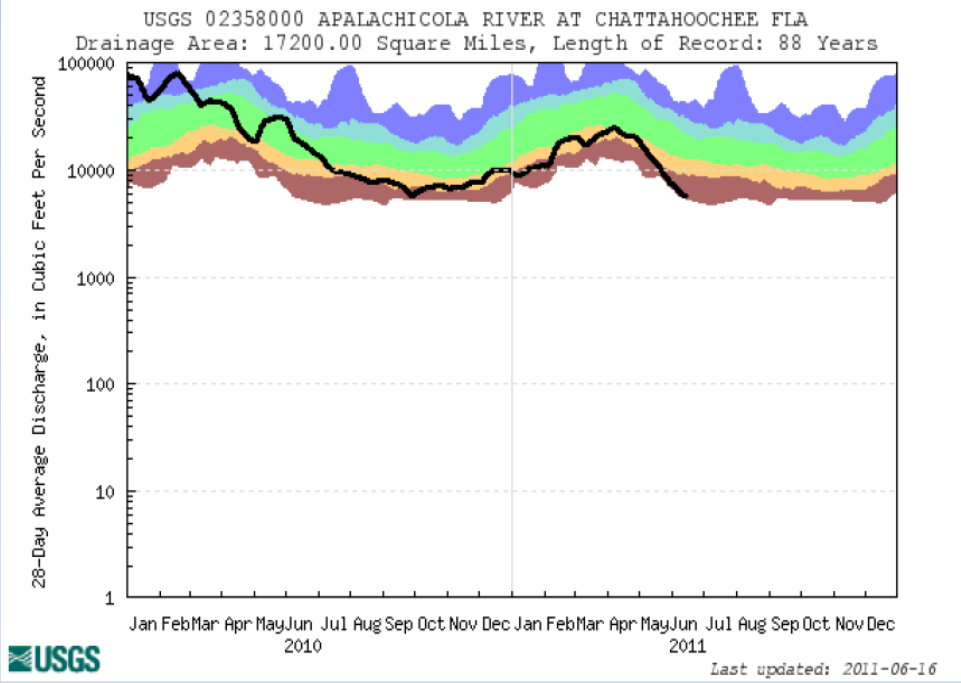


Explanation - Percentile classes

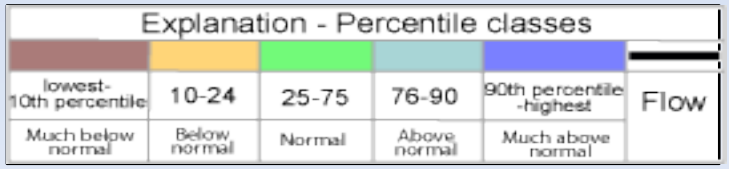
lowest-10th percentile	10-24	25-75	76-90	90th percentile -highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

Streamflows

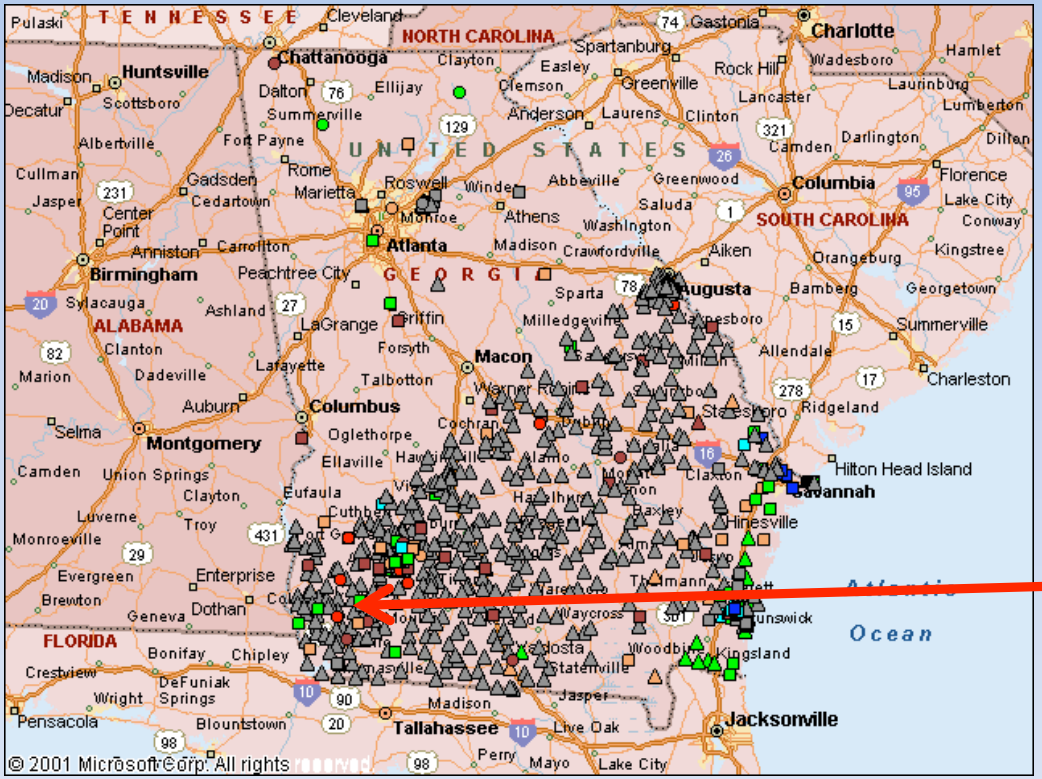
Apalachicola at Chattahoochee (02358000)

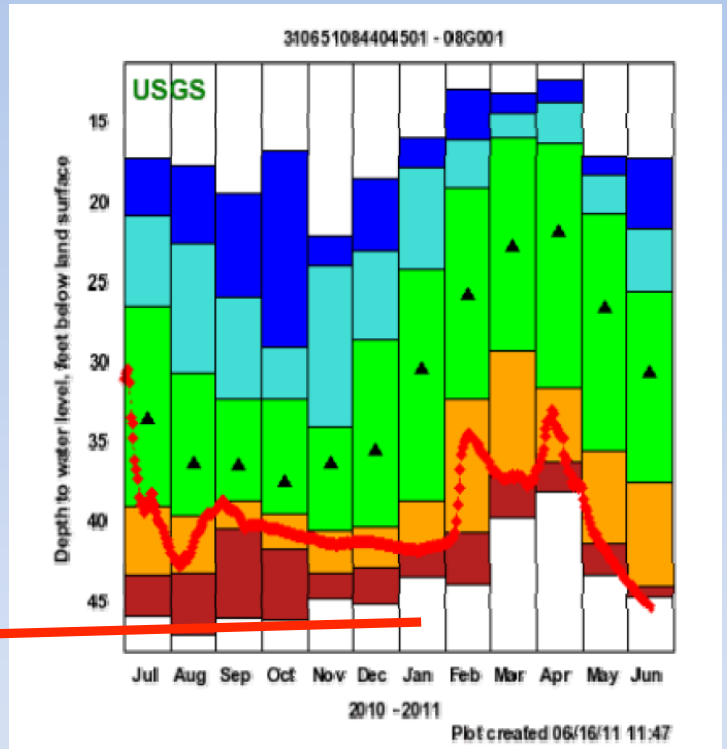


http://waterwatch.usgs.gov



Groundwater Status





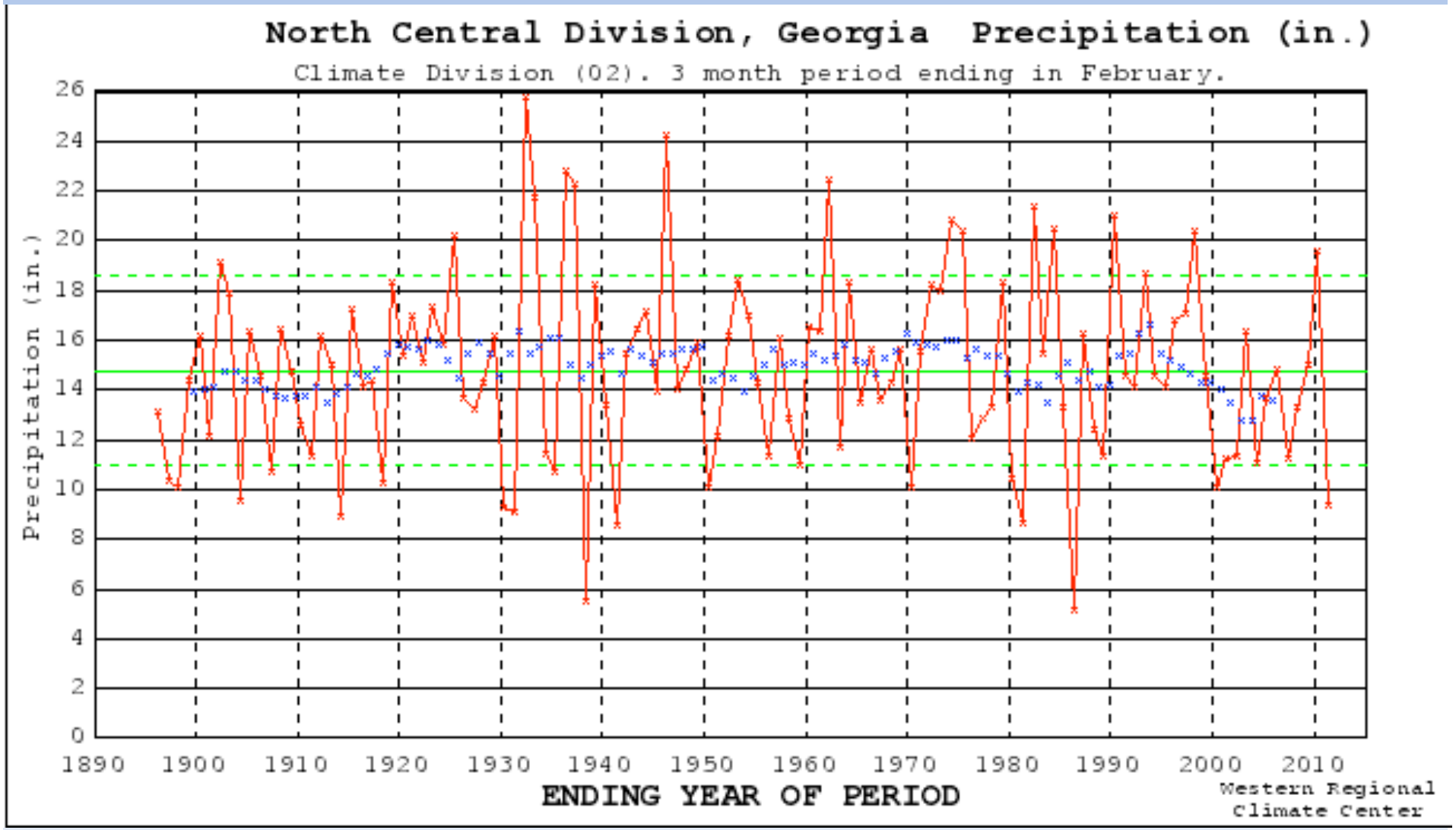
Explanation - Percentile classes (symbol color based on most recent measurement)		
Low	<10	10-24
	Much Below Normal	Below Normal

- ○ Real Time
- □ Continuous
- △ Periodic Measurements

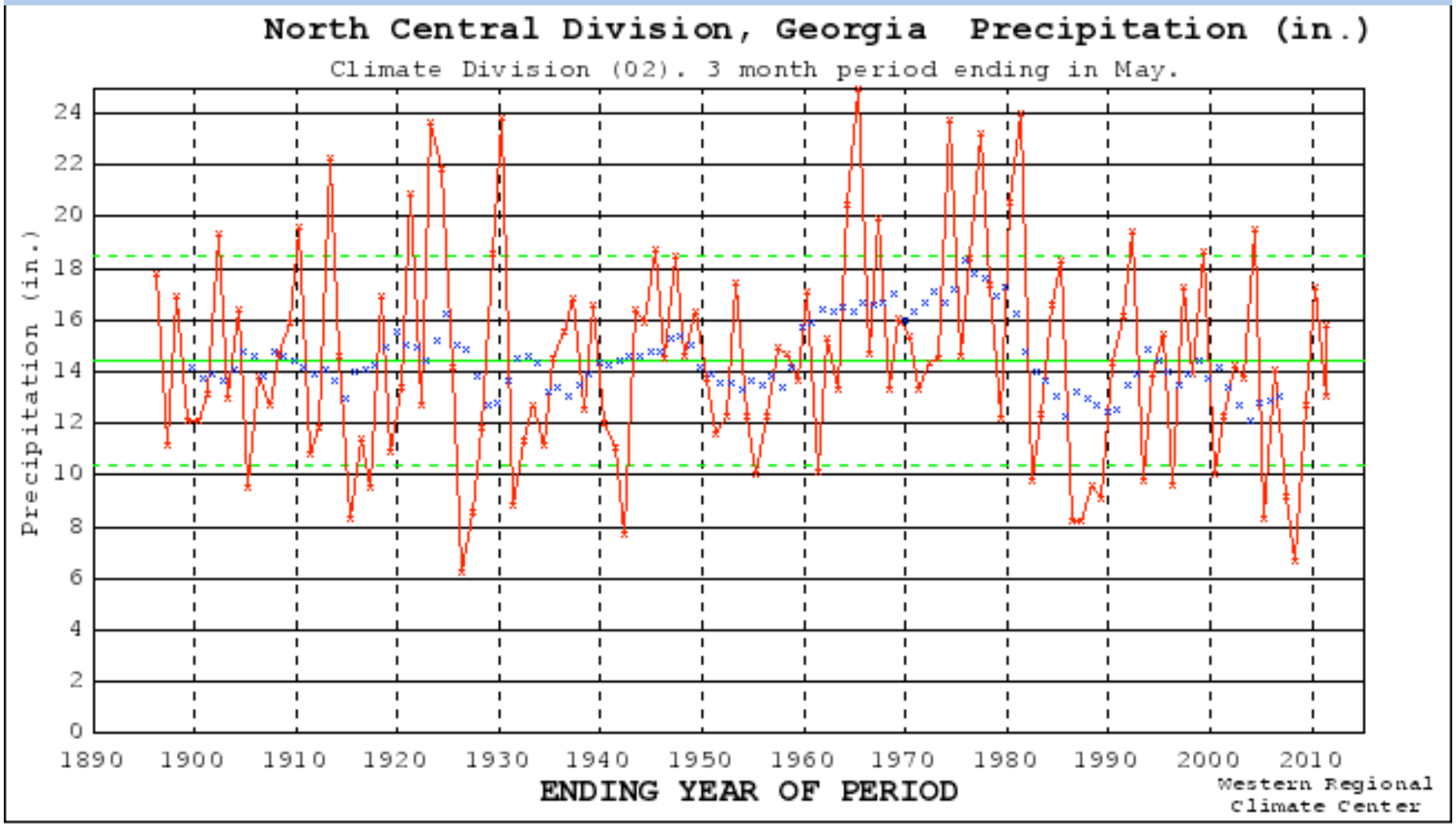
Miller County, GA
(Upper Floridan Aquifer)

http://groundwaterwatch.usgs.gov

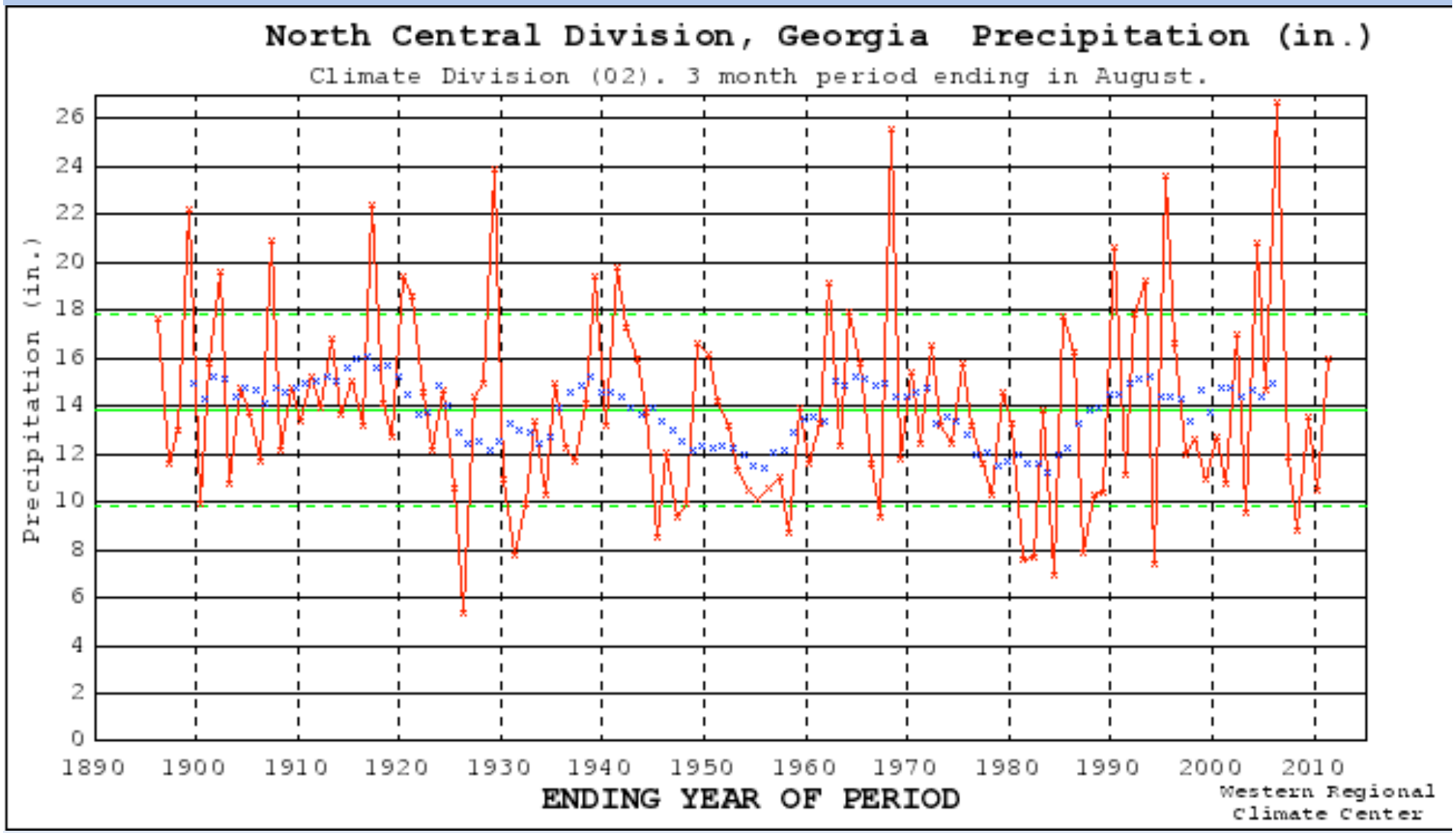
Winter


North Central Division, Georgia Precipitation (in.)
Climate Division (02). 3 month period ending in February.
Precipitation (in.)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
ENDING YEAR OF PERIOD
Western Regional
Climate Center

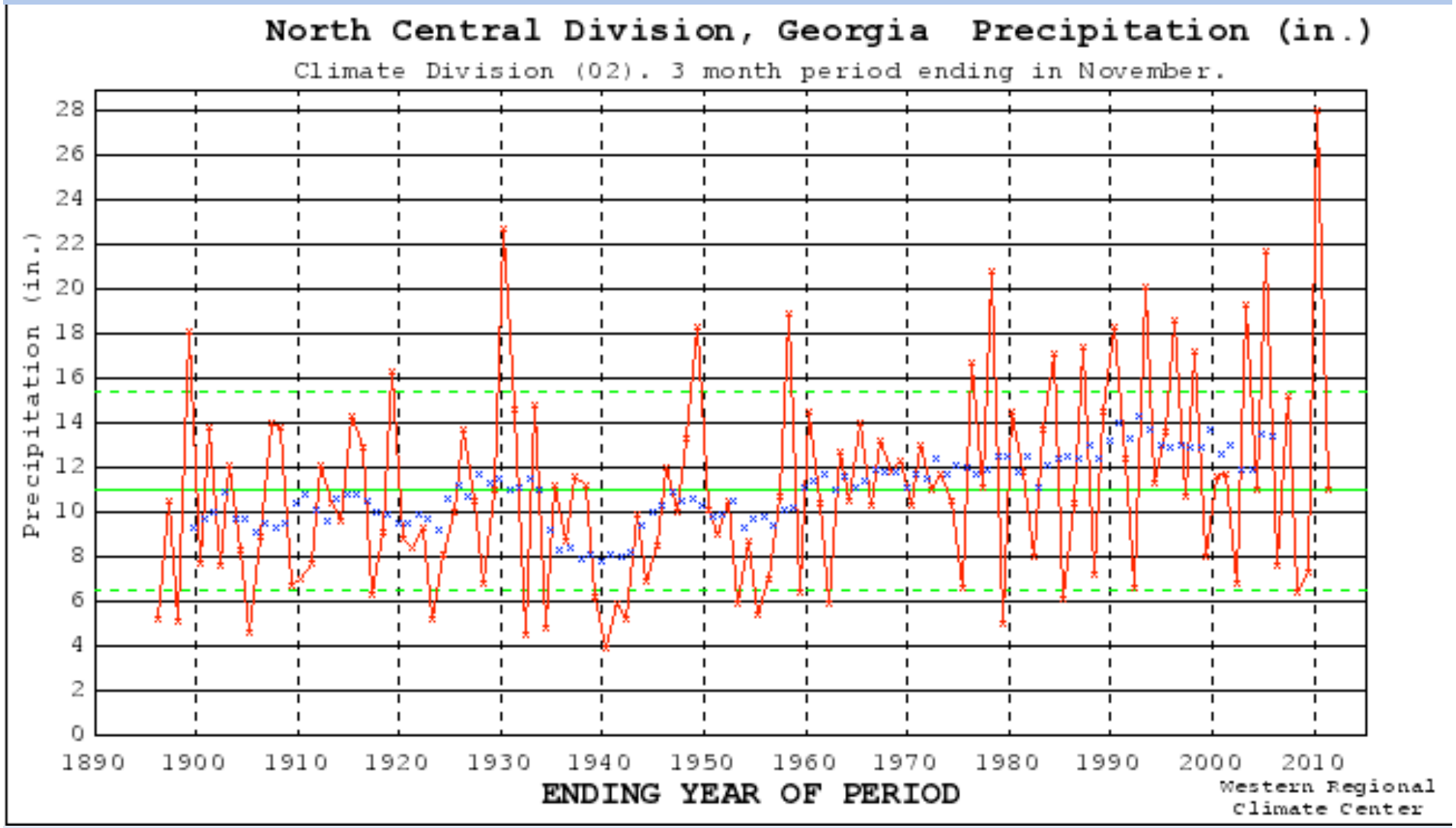
Spring


North Central Division, Georgia Precipitation (in.)
Climate Division (02). 3 month period ending in May.
Precipitation (in.)
0
2
4
6
8
10
12
14
16
18
20
22
24
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
ENDING YEAR OF PERIOD
Western Regional
Climate Center

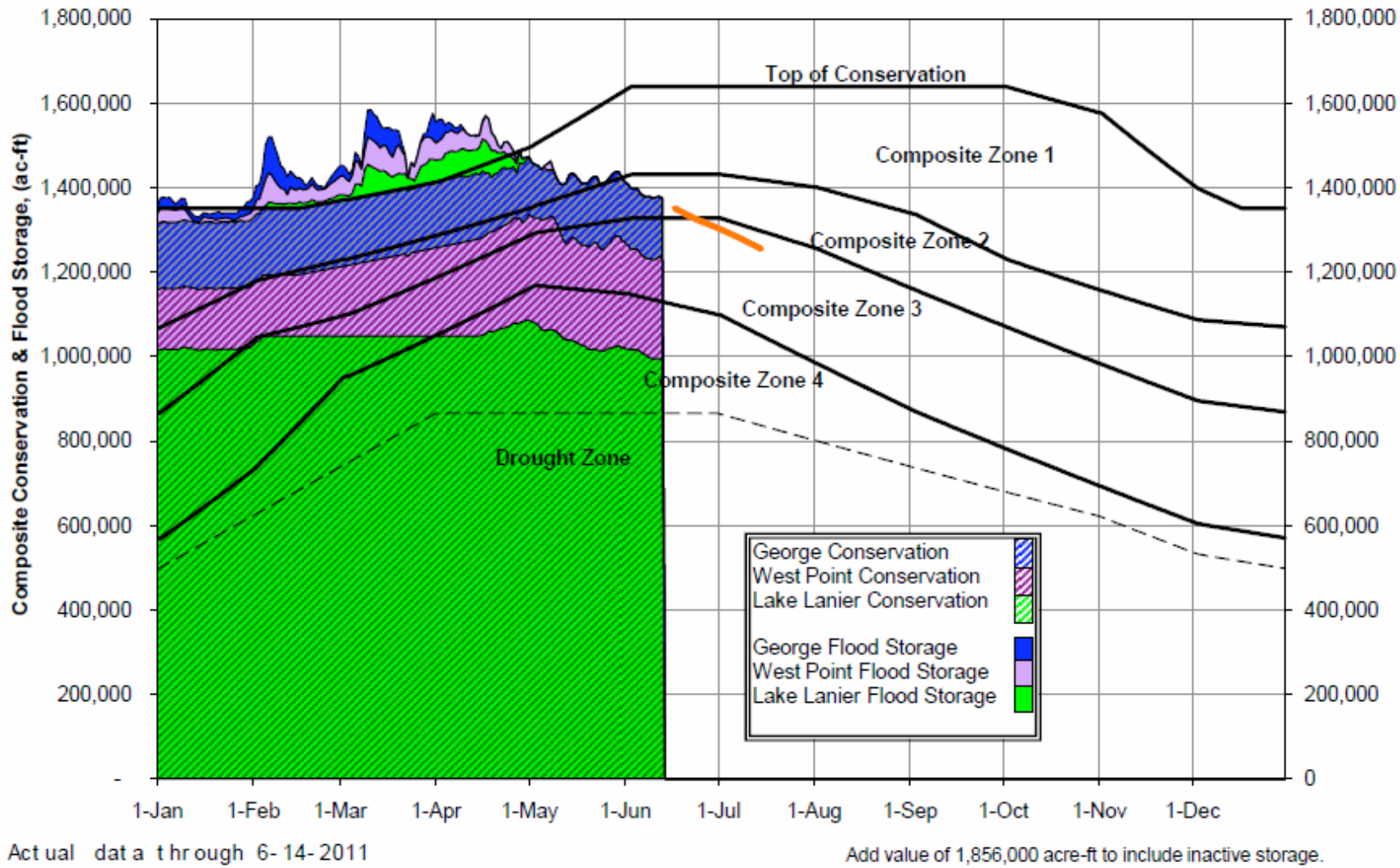
Summer


North Central Division, Georgia Precipitation (in.)
Climate Division (02). 3 month period ending in August.
Precipitation (in.)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
ENDING YEAR OF PERIOD
Western Regional
Climate Center

Fall

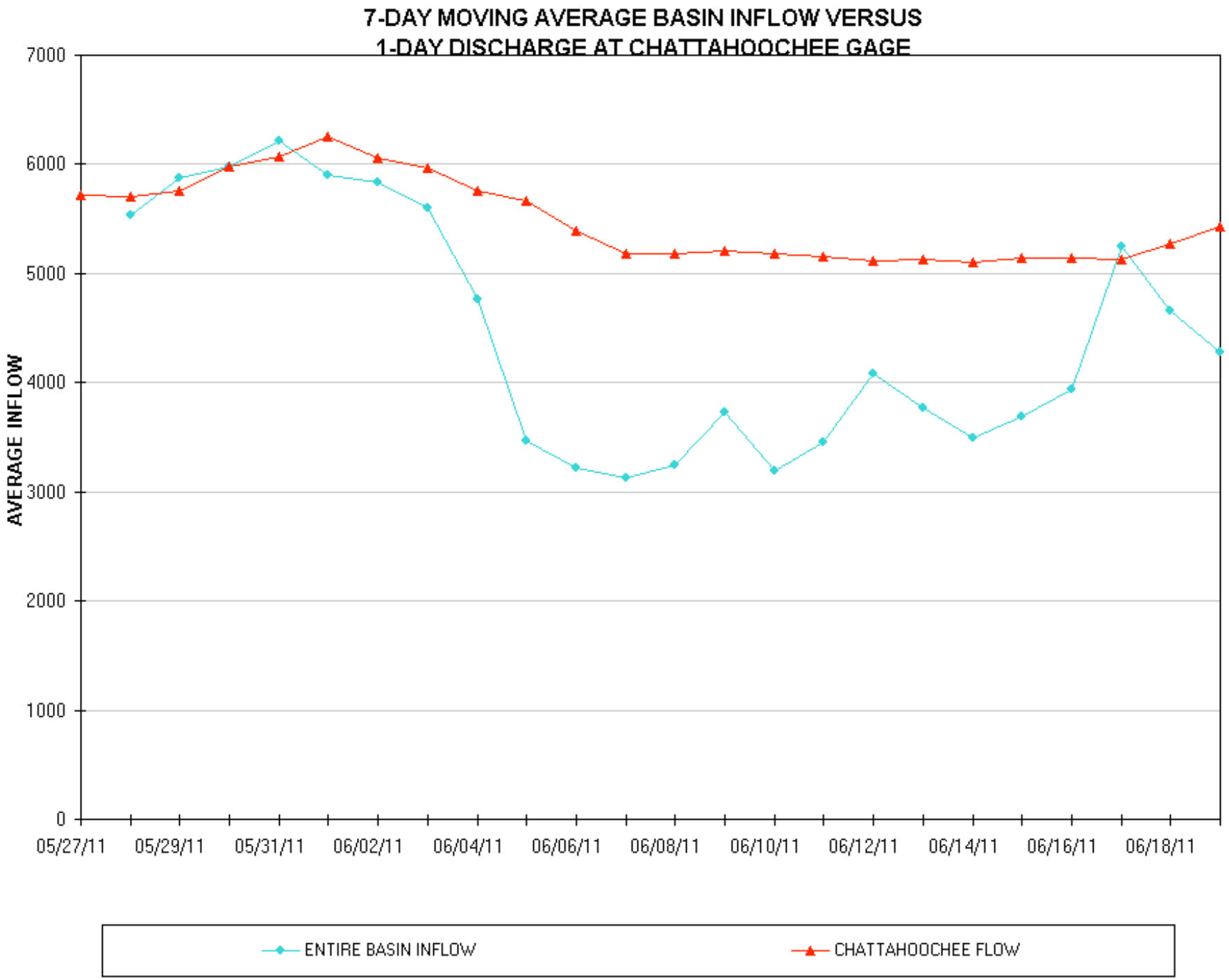

North Central Division, Georgia Precipitation (in.)
Climate Division (02). 3 month period ending in November.
Precipitation (in.)
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
1890
1900
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
ENDING YEAR OF PERIOD
Western Regional
Climate Center

2011 Basin Composite Conservation & Flood Storage

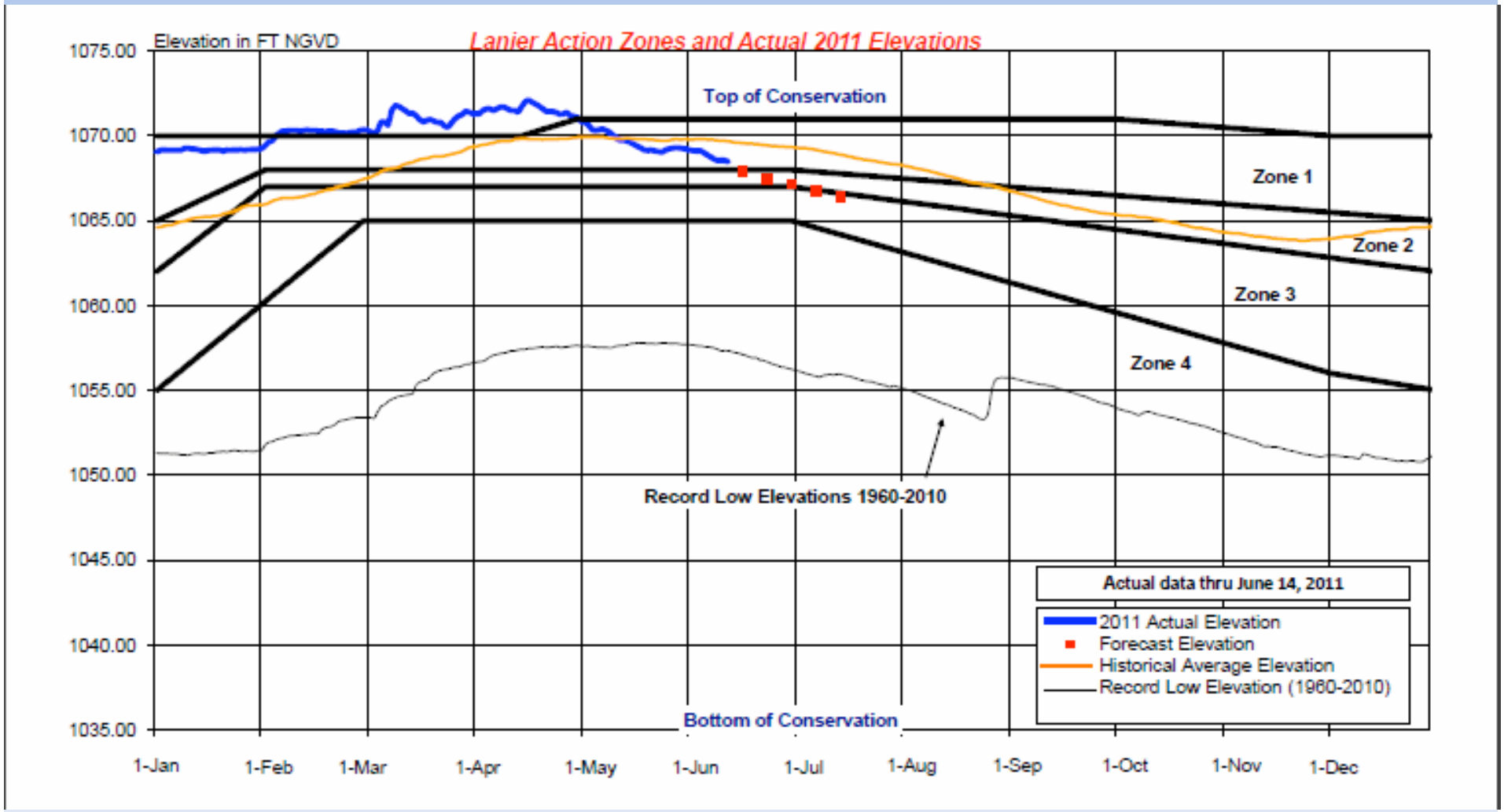


Actual data through 6-14-2011

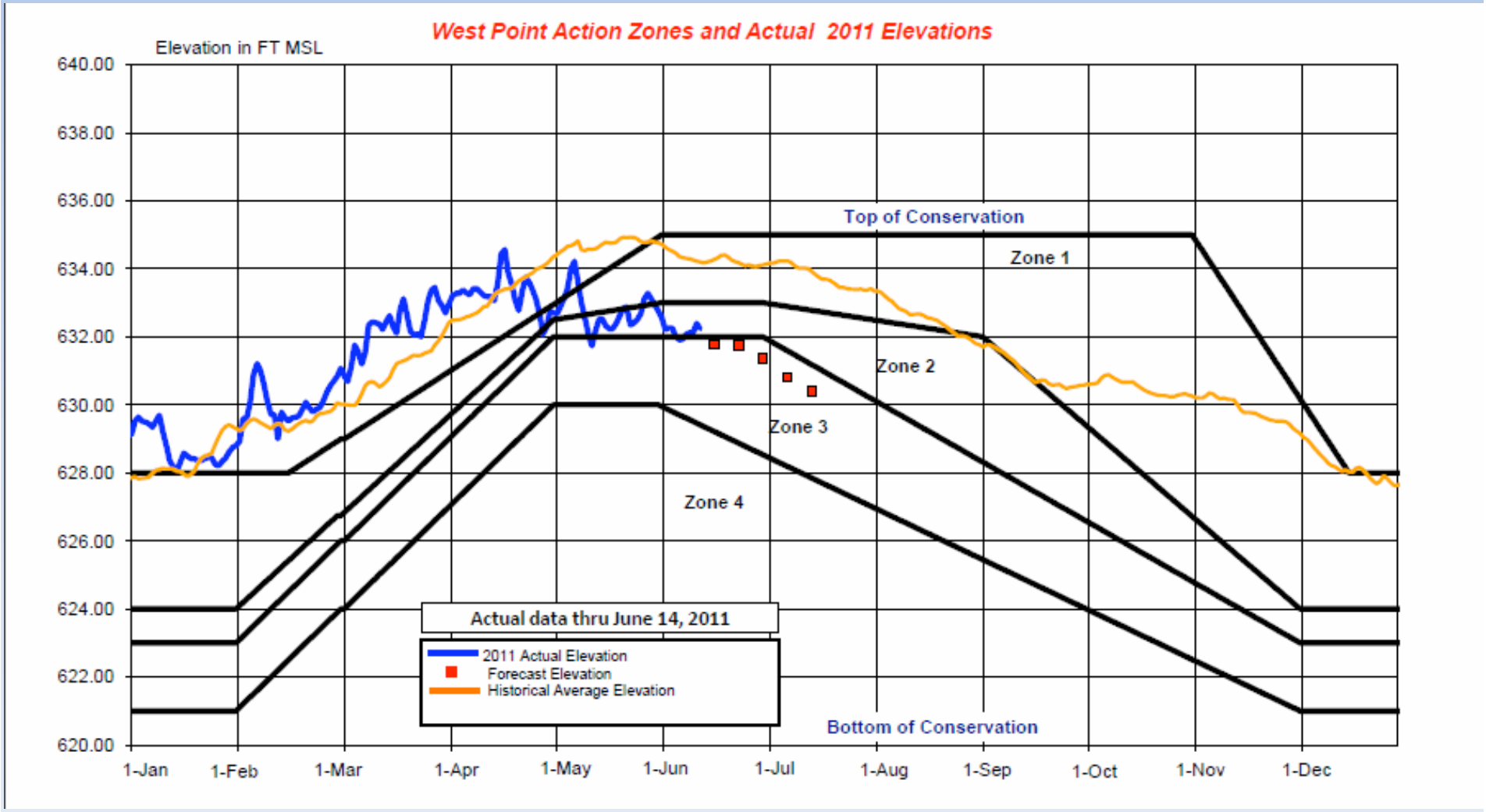
Add value of 1,856,000 acre-ft to include inactive storage.


7-DAY MOVING AVERAGE BASIN INFLOW VERSUS
1-DAY DISCHARGE AT CHATTAHOOCHEE GAGE
AVERAGE INFLOW
7000
6000
5000
4000
3000
2000
1000
0
05/27/11
05/29/11
05/31/11
06/02/11
06/04/11
06/06/11
06/08/11
06/10/11
06/12/11
06/14/11
06/16/11
06/18/11
ENTIRE BASIN INFLOW
CHATTAHOOCHEE FLOW

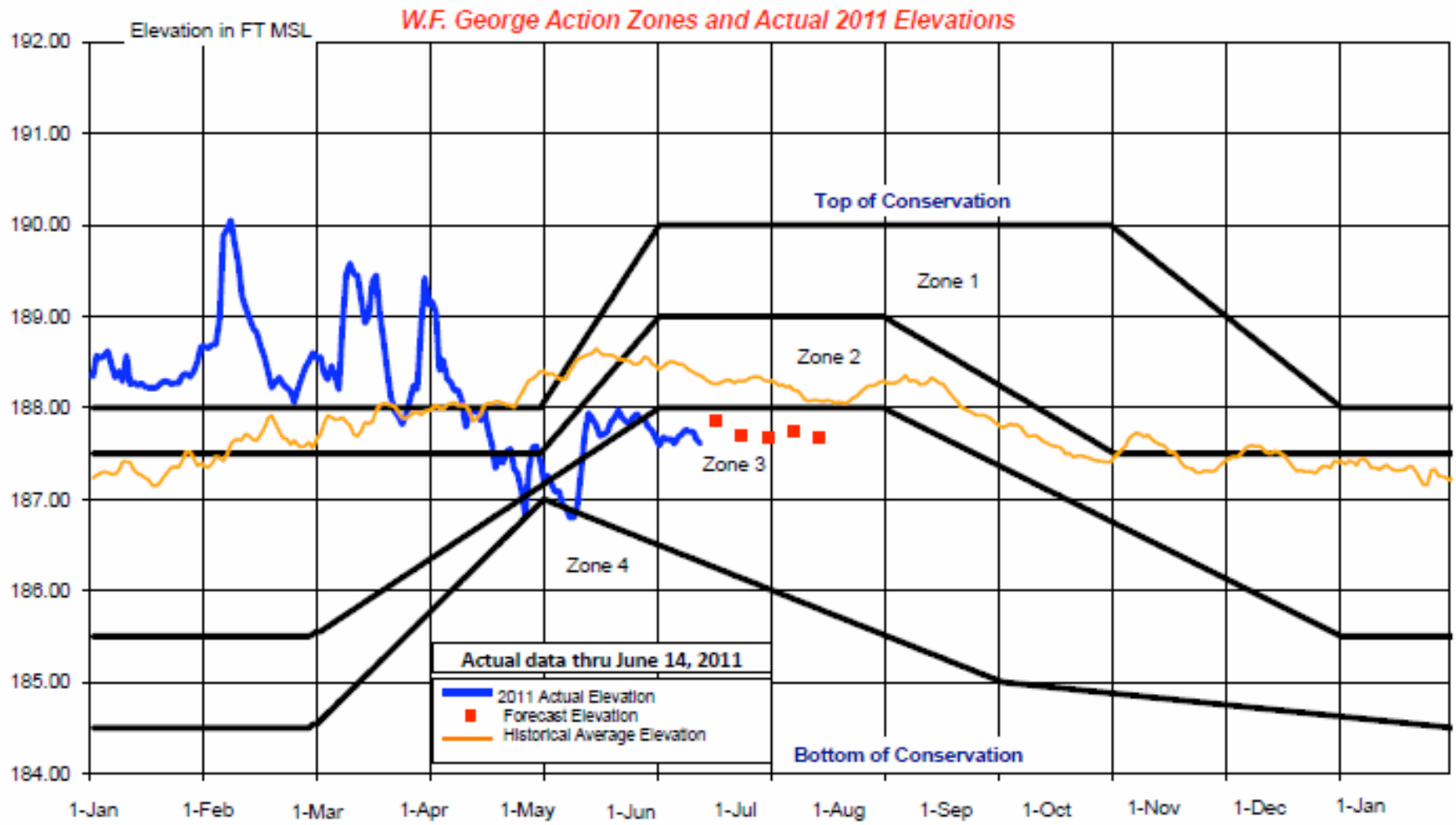
Lanier Action Zones and Actual 2011 Elevations



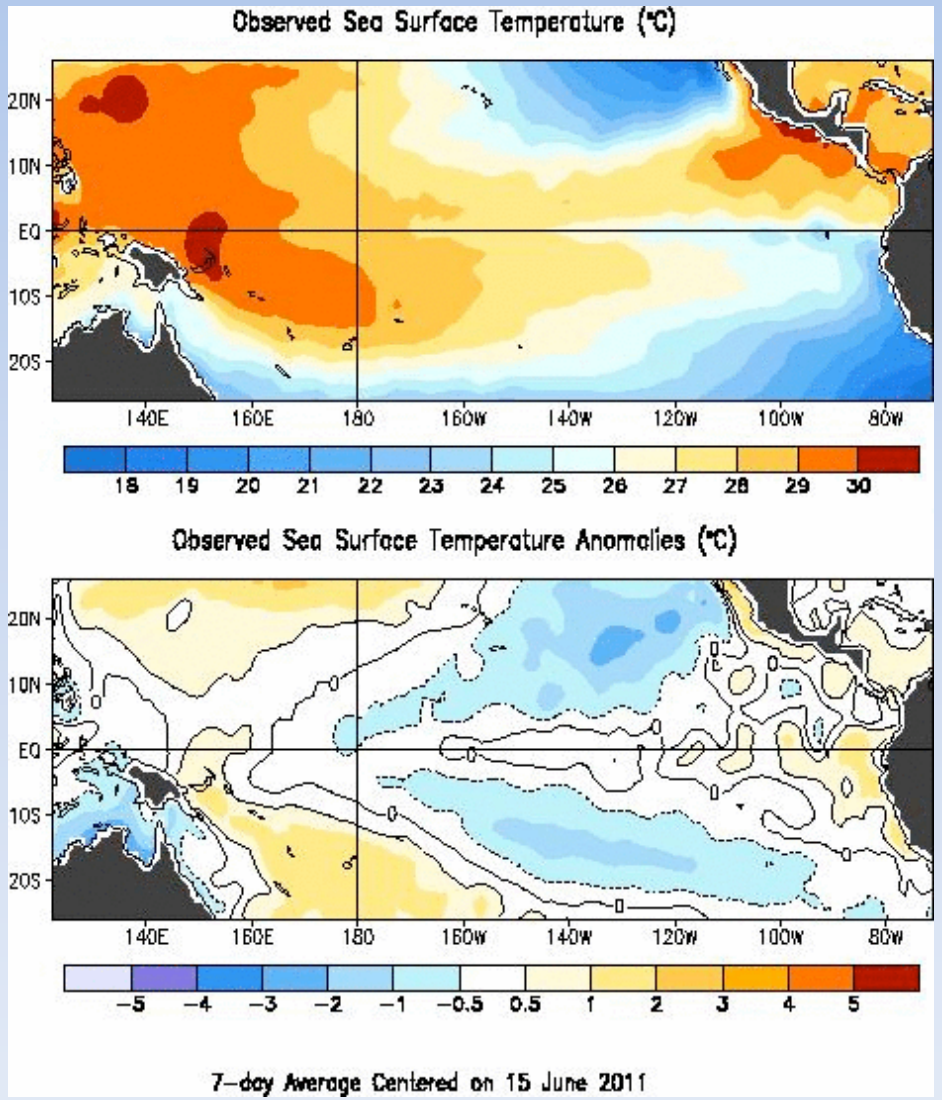
West Point Action Zones and Actual 2011 Elevations



W.F. George Action Zones and Actual 2011 Elevations

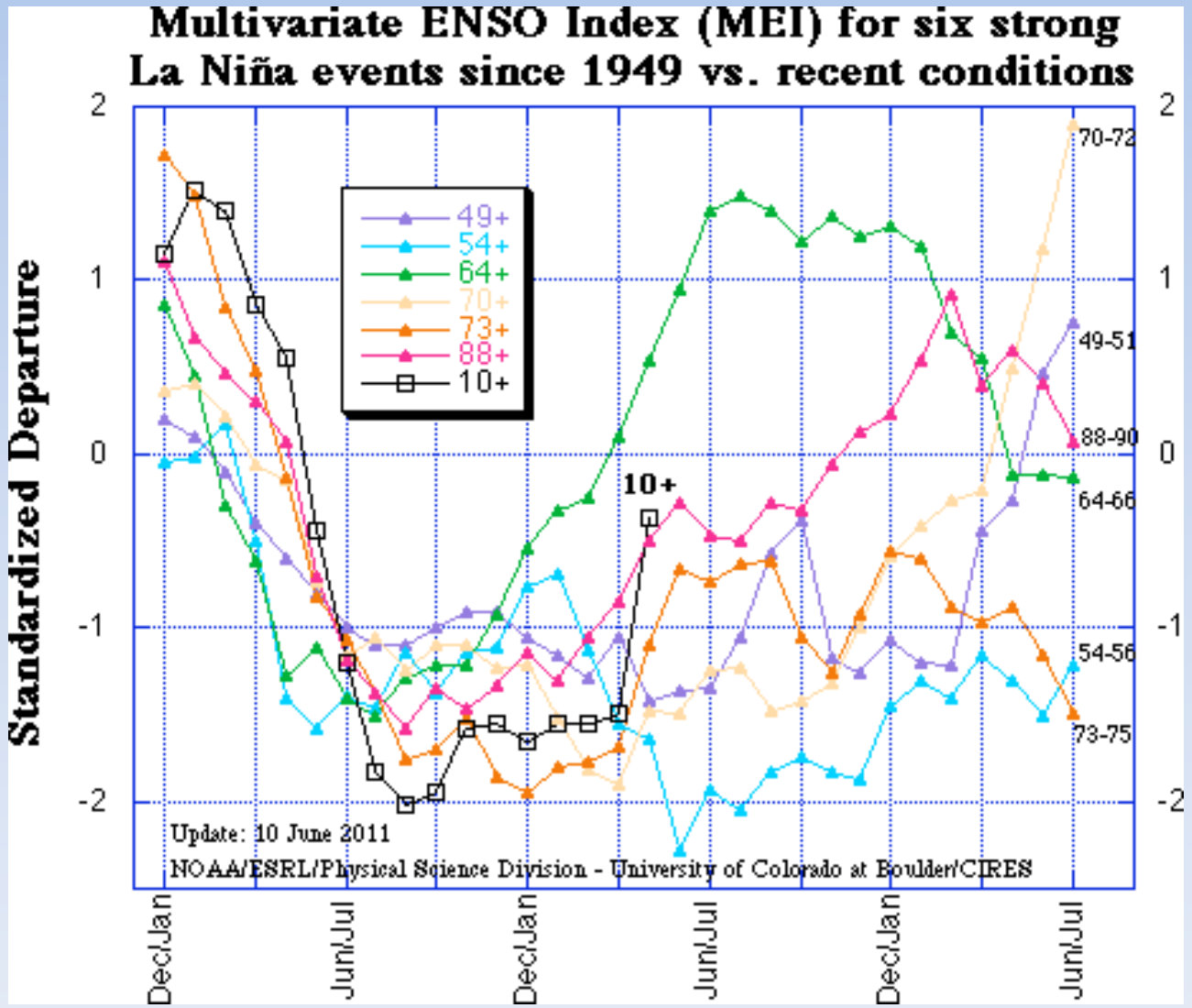


7-day average Pacific Ocean SST Anomalies



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

Multivariate ENSO Index: recent and six strong La Niña events

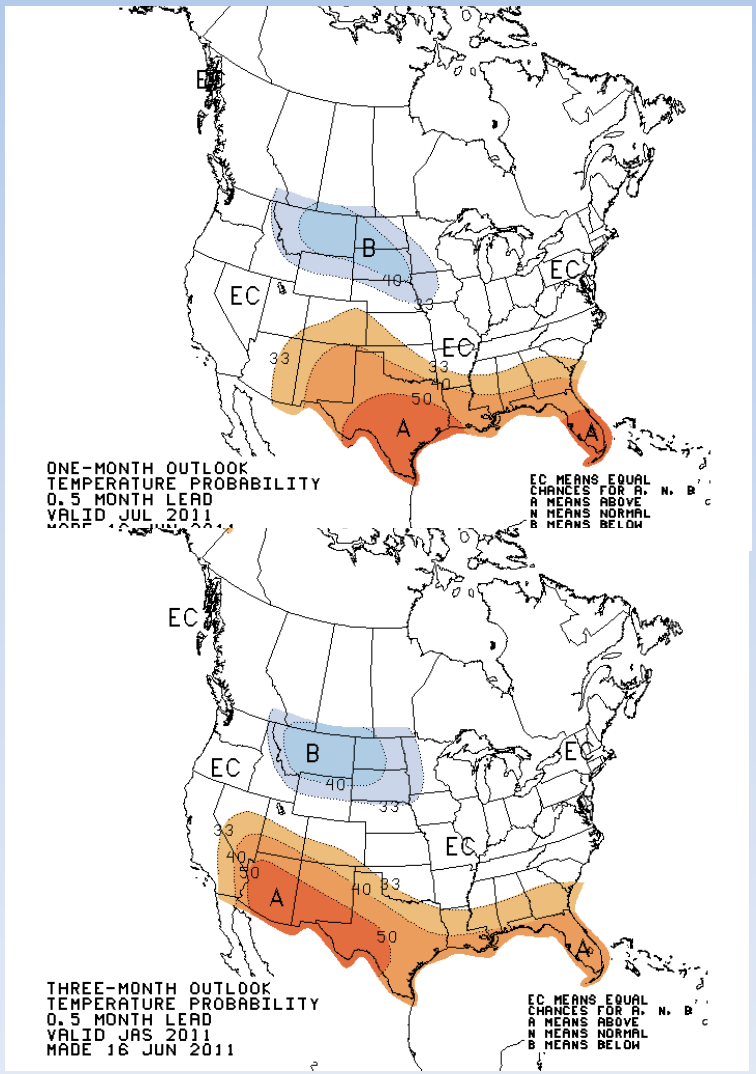


http://www.esrl.noaa.gov/psd/people/klaus.wolter/MEI/

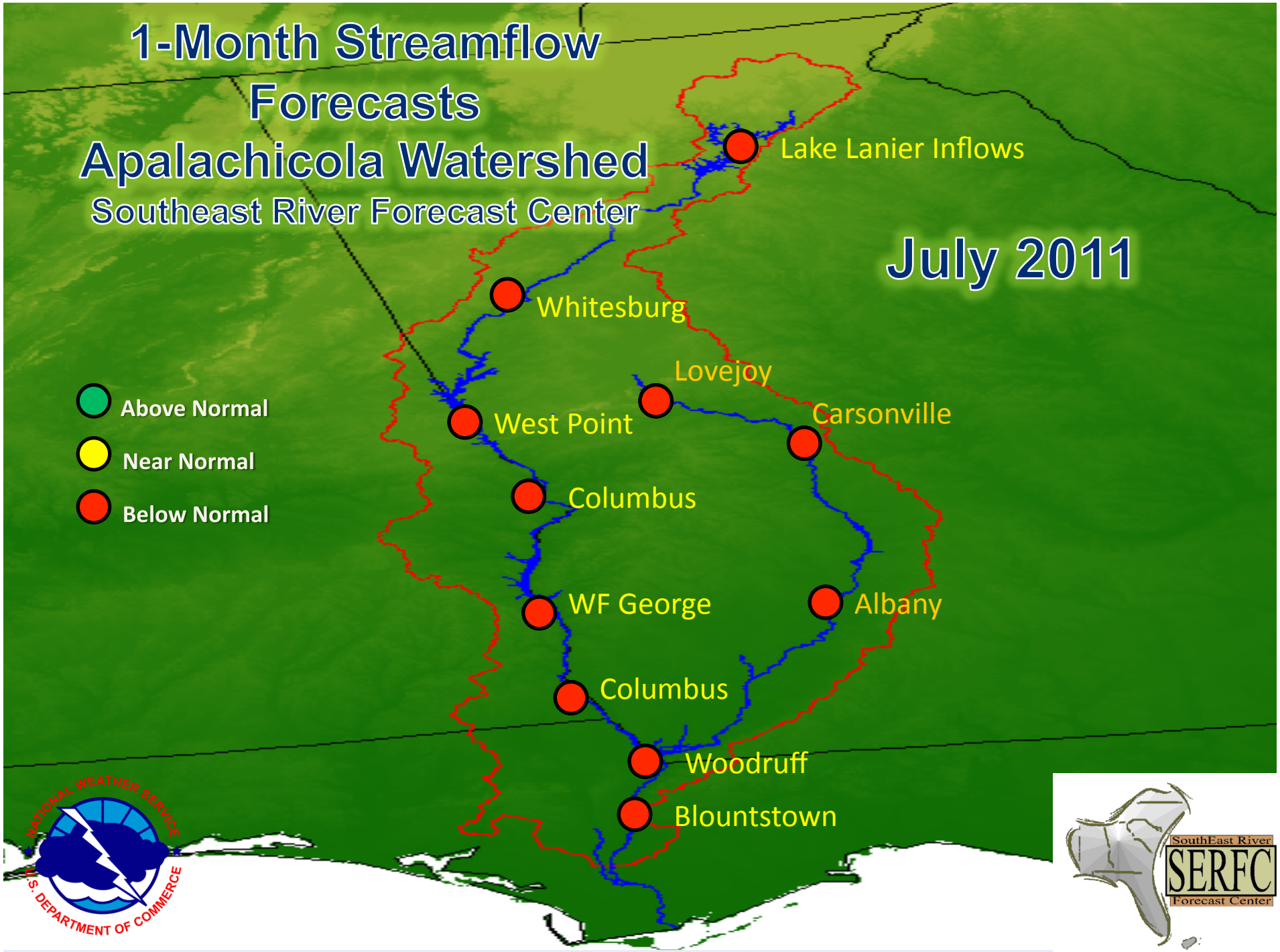
Temperature Outlooks

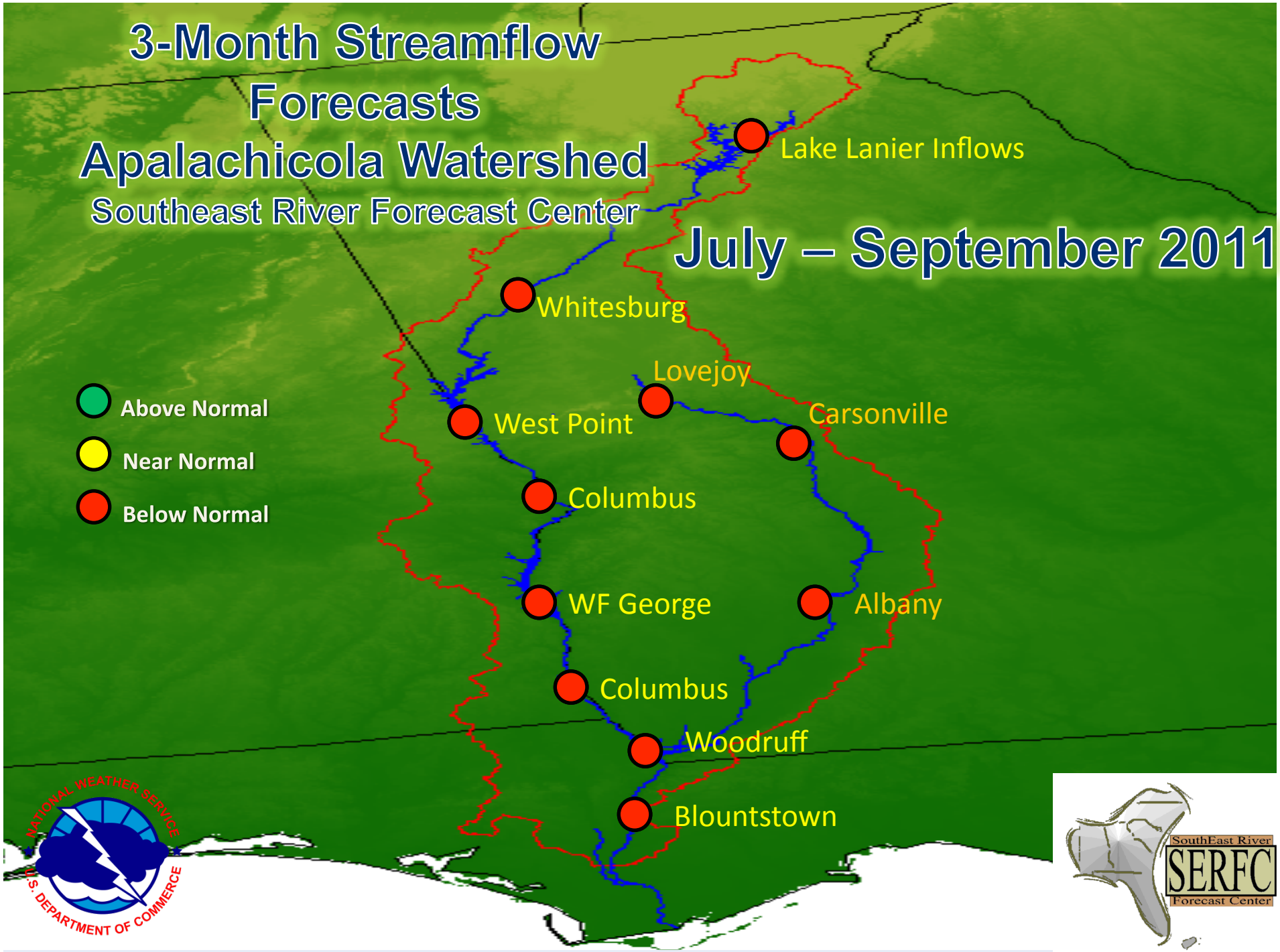
1-month

3-month



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


1-Month Streamflow Forecasts
Apalachicola Watershed
Southeast River Forecast Center
July 2011
Lake Lanier Inflows
Whitesburg
Lovejoy
West Point
Carsonville
Columbus
WF George
Albany
Columbus
Woodruff
Blountstown
Above Normal
Near Normal
Below Normal
NATIONAL WEATHER SERVICE
U.S. DEPARTMENT OF COMMERCE
SouthEast River
SERFC
Forecast Center


3-Month Streamflow Forecasts
Apalachicola Watershed
Southeast River Forecast Center
July – September 2011
Lake Lanier Inflows
Whitesburg
Lovejoy
West Point
Carsonville
Columbus
WF George
Albany
Columbus
Woodruff
Blountstown
Above Normal
Near Normal
Below Normal
NATIONAL WEATHER SERVICE
U.S. DEPARTMENT OF COMMERCE
SouthEast River
SERFC
Forecast Center

Recent Drought Impacts

SE Alabama Spring Rain Totals
4/1/2011 through 6/14/2011

Site	POR	Spring Total	Spring Ranking
Dothan:	3/01/2003 - 06/13/2011	3.92 inches.	1 (driest)
Enterprise 2W	6/01/1966 - 06/14/2011	2.53 inches.	2 (2nd driest)
Geneva #2	5/01/1976 - 06/14/2011	5.34 inches.	6 (6th driest)
Headland	4/01/1950 - 06/14/2011	3.28 inches.	3 (3rd driest)
Troy Muni AP	(2001 - 2011)	2.30 inches.	1 (driest)

SE Alabama Spring Rain Totals
Water Year (From 10/1/2010)

Site	WY Total	WY Deficit	WY %Normal
Dothan:	20.11	na	na
Enterprise 2W	24.09	-16.12	60
Geneva #2	24.13	-10.46	58
Headland	21.25	-12.67	54
Average:	23.16	-13.08	57

SE Alabama Spring Rain Totals
Calendar Year (From 1/1/2010)

Site	CY Total	CY Deficit	CY %Normal
Dothan:	15.17	na	na
Enterprise 2W	16.23	-12.07	57
Geneva #2	18.73	-10.46	64
Headland	15.15	-12.67	54
Average:	16.70	-11.73	58

Impacts

Hot Temps (Daytime -100s) (Night 75/80)

Hard Baked Soils

Peanuts mostly planted, but not sprouting

Corn Stunted

Cotton Skimpy

Grazing – nearly non exisitant

Cattle – Going to feedlots or sale

Wells have gone dry in Doe Run and Dawson, GA

Comparisons

Old timers comparing this drought to 1954

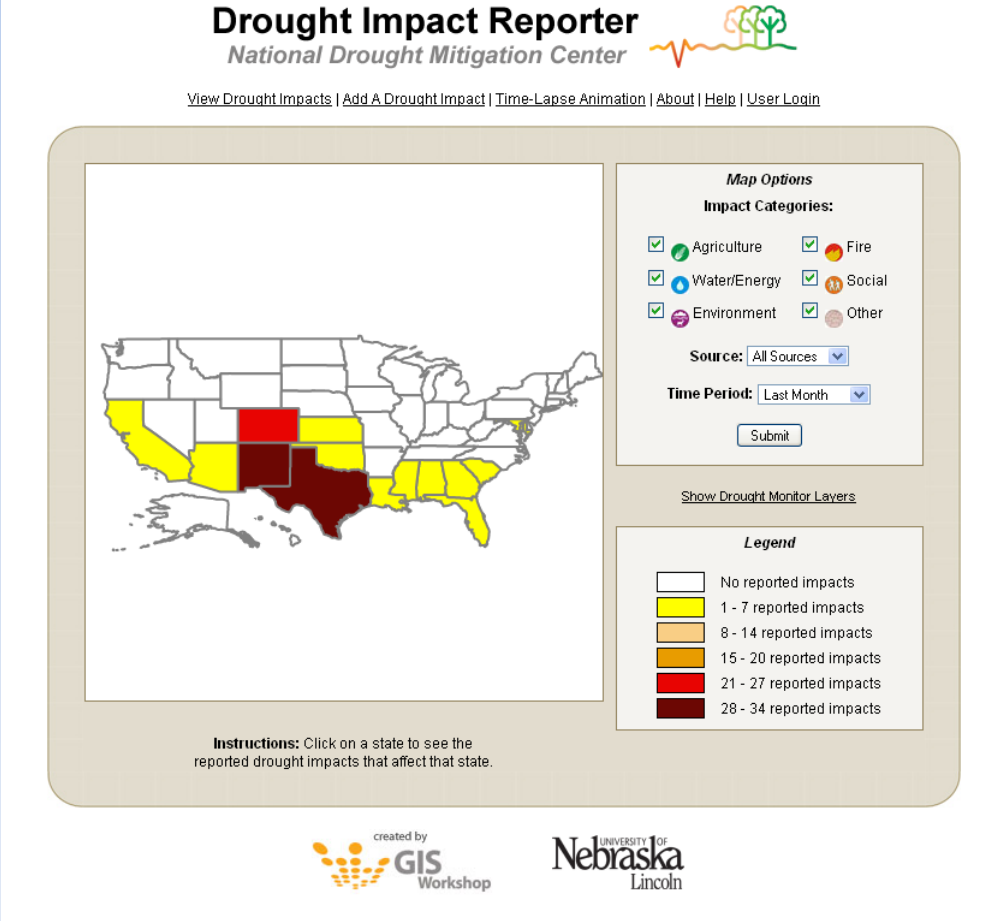
Brandon Dillard Ag Agent – Worst he has seen.

Need Gulf Moisture to salvage the crop.

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

- Recent and forecast rains provide some relief from drought, but they are insufficient to meet plant needs as evapotranspiration demand remains high
- Drought is particularly severe in the lower middle and southern part of the basin, where streamflows remain extremely low and ground water is lower than the range of historical observations
- Near and longerterm outlooks show that drought is likely to continue or worsen

References

Speakers

David Zierden, FSU

Tony Gotvald, USGS

Rob Erhardt, USACE

Todd Hamill, SERFC

Joel Lanier, NWS

Moderator

Keith Ingram, SECC/UF

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