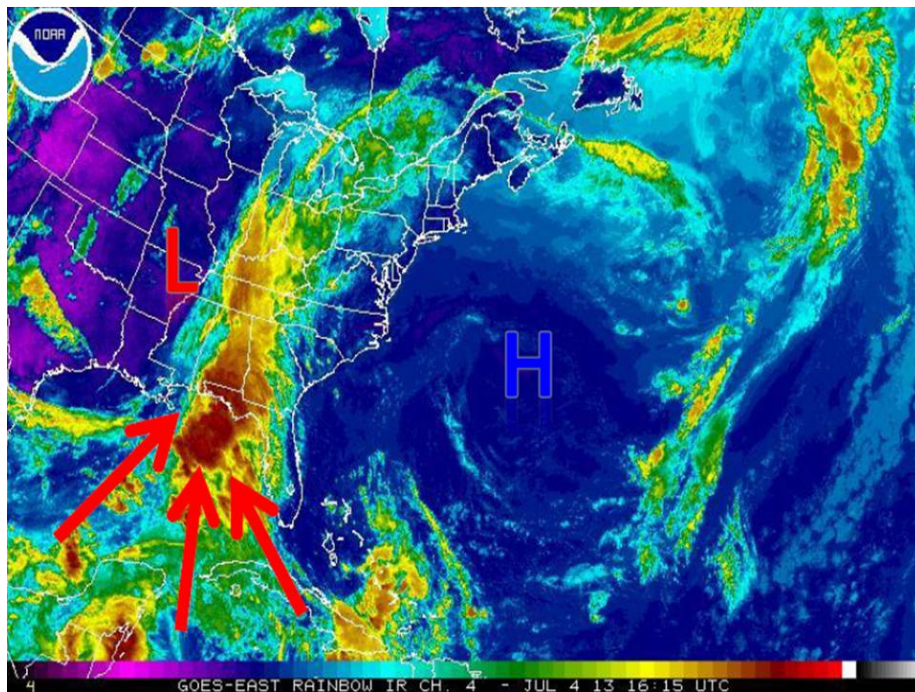# July and August 2013 Climate Summary - Georgia

Prepared by Nyasha Dunkley, *Deputy State Climatologist*
& Sean Miller, *Service Climatologist*
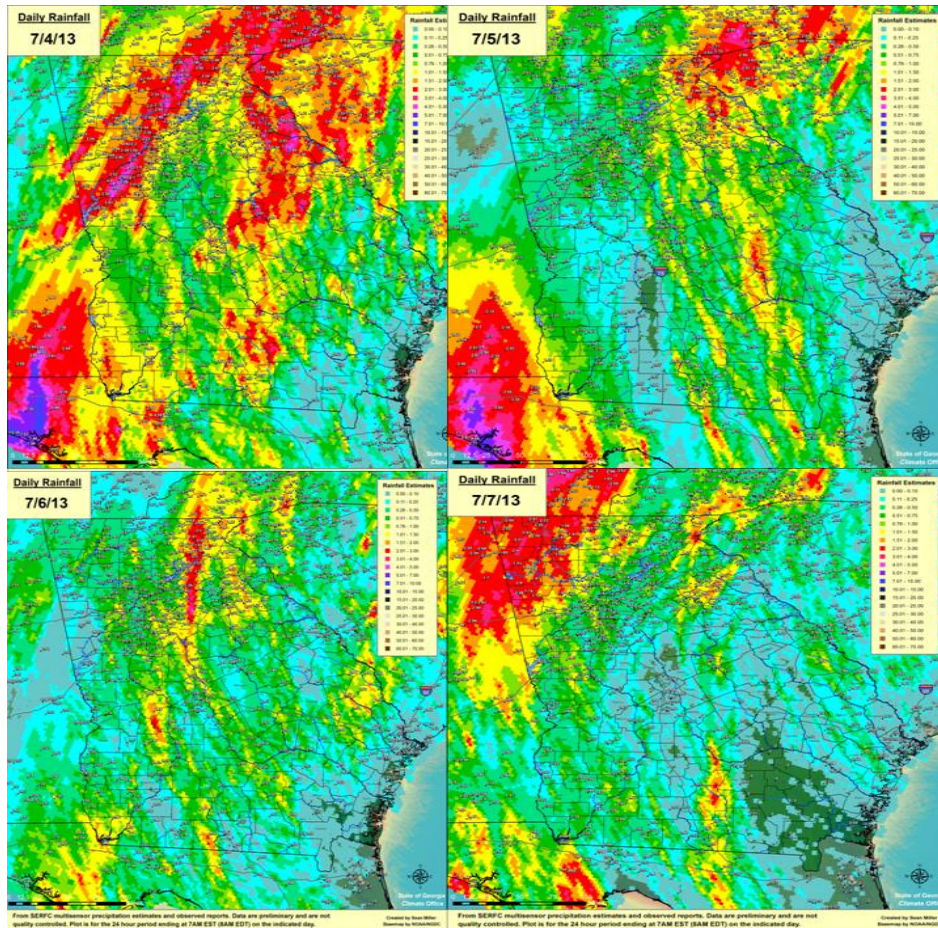State of Georgia Climate Office

Overview – July
July was marked by much wetter than normal rainfall conditions which led to slightly cooler than average temperatures across much of Georgia. A persistent Bermuda High over the Atlantic, coupled with weak low pressure systems in the Gulf of Mexico, pulled moist air from the Gulf northward across Georgia. Heavy rainfall characterized the beginning of the month with the abundance of Gulf and tropical moisture. A stationary front to the west during the first week of July allowed significant moisture to be funneled into Alabama, Georgia and Tennessee, as seen on the GOES East IR image below (graphics provided by NWS SERFC).

Precipitation
Rainfall totals across areas of Northeast Georgia were substantial, as was flooding in many areas from this event. One such flash flooding event occurred near and south of Gainesville, GA on the 8th, with radar-derived totals showing rainfall amounts exceeding 3-4"in ~1hr. Local storm reports in Franklin County reported a mudslide and debris flow across portions of Highway 29 in Royston. The slide was located an estimated 1000 feet north of the Franklin/Madison County Line. Yearly rainfall totals for the cities of Helen and Sautee, in White County, were already +18.98" and +16.24" above normal, respectively, through July 8th.
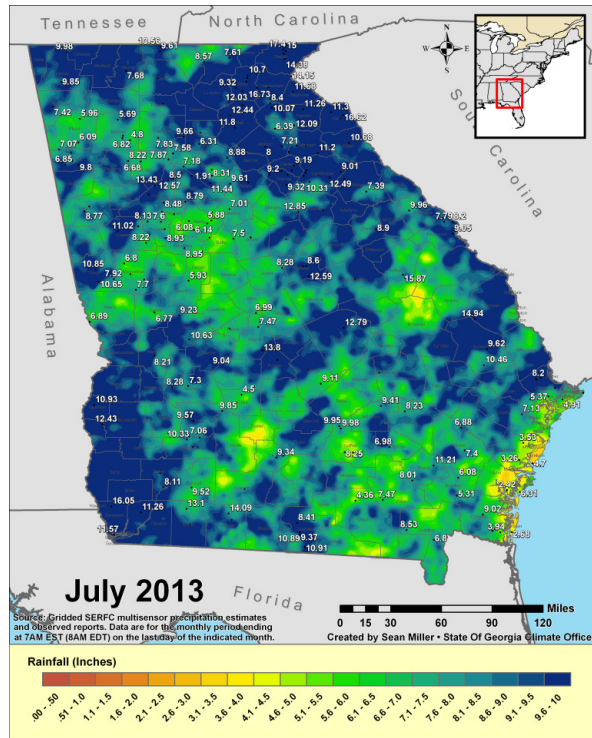
Heavy rainfall from abundant moisture at the beginning of the month

The major climate sites of Atlanta, Athens, Columbus, and Macon observed above average precipitation totals of 8.48", 9.19", 8.81" and 6.99", respectively, for the month of July. The average precipitation for the entire state during July was 9.10", +3.53" above normal. Listed below are the 10 wettest locations across the state for the month.

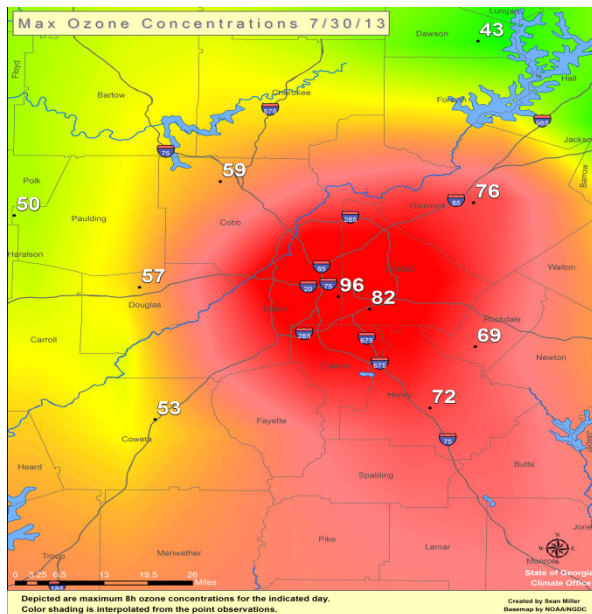| Name	Station Type	Total Precipitation
Cairo	COOP	17.68
Rabun	CoCoRaHS	17.4
Mtn. City	COOP	16.95
Demorest	CoCoRaHS	16.73
Hartwell	COOP	16.72
Hartwell	CoCoRaHS	16.62
Dillard	CoCoRaHS	16.24
Donalsonville	COOP	16.05
Helen	CoCoRaHS	15.98
Louisville	COOP	15.87

Wettest locations across the state in July

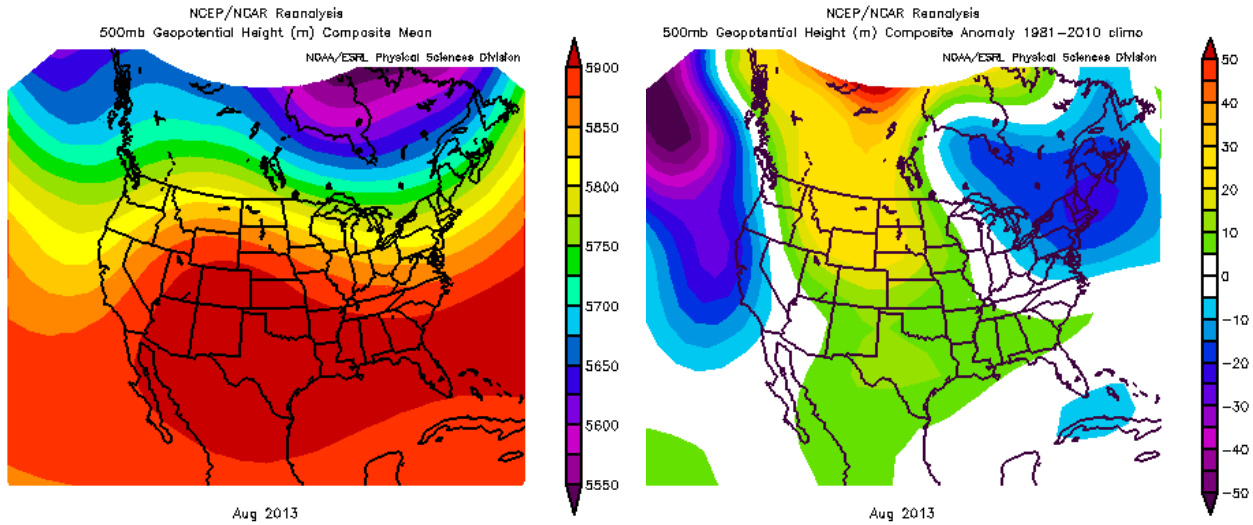**Average monthly mean precipitation for July**

Temperatures

The troughness and rainfall also provided cooler temperatures with a mean temperature for the entire state of 78.2°F. It was the coldest July since 1994 and ranked 11th coldest overall out of 119 years of record. Macon reflected a coldest ever average mean temperature for the period of 1/30/13- 7/29/13, at 64.4°F (-1.6° below normal). Even during a relatively cool month, Metro Atlanta recorded one of few ozone exceedances this summer on July 30th, reaching Code Red.

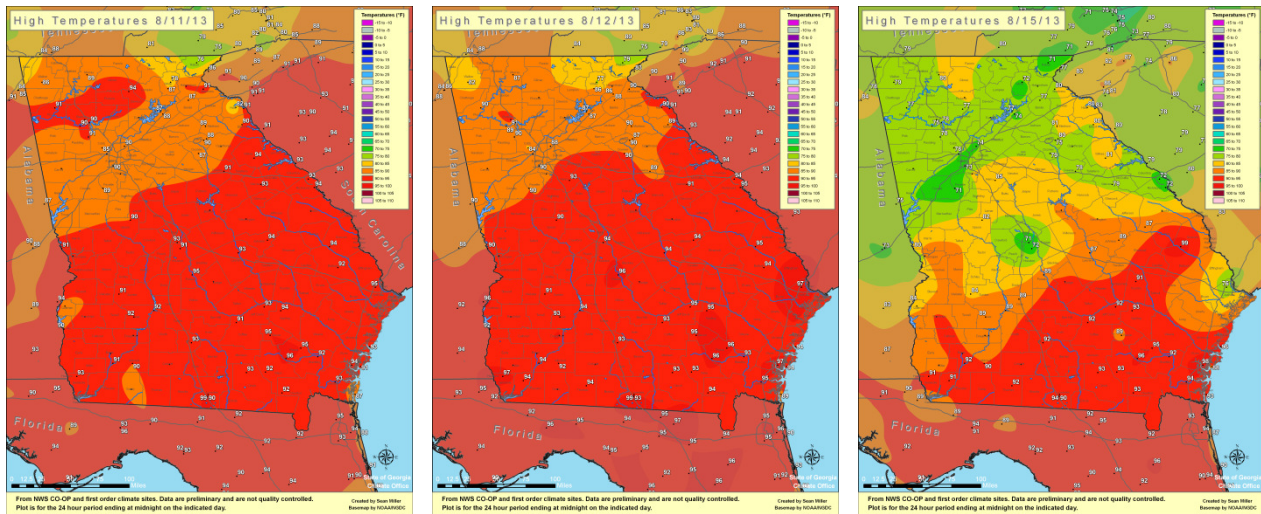**Ozone exceendance at end of the month**

Overview – August

The mean August weather pattern featured a mid-level high pressure ridge over the central states and anomalously deep troughing over New England. An active storm track, centered north of the state, kept Georgia's weather rather unsettled during the month. This wet and frequently cool pattern resulted in below normal temperatures and above normal precipitation for most areas. Heavy rainfall in the southwest and north central portions of the state allowed several cooperative observing sites to record their wettest Augusts on record.
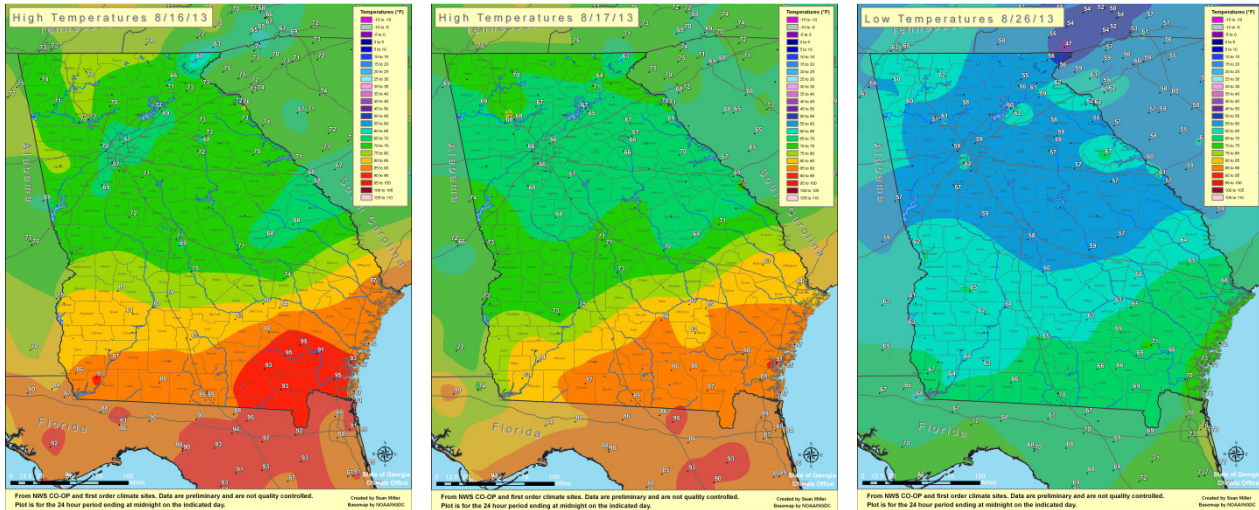

Temperatures

Below normal temperatures were experienced in nearly all areas with the exception of the extreme southeast. Monthly means ranged from 3-4 degrees below normal for the north and east central to 1-2 degrees above normal in the Southeast. A warm spell occurred from the 9th-13th with daily maximum temperatures rising into the mid to upper 90s in central and southern areas. The month's warmest reading of 99°F occurred twice during this period at Valdosta and on the 15th at the cooperative observing site in Rocky Ford.
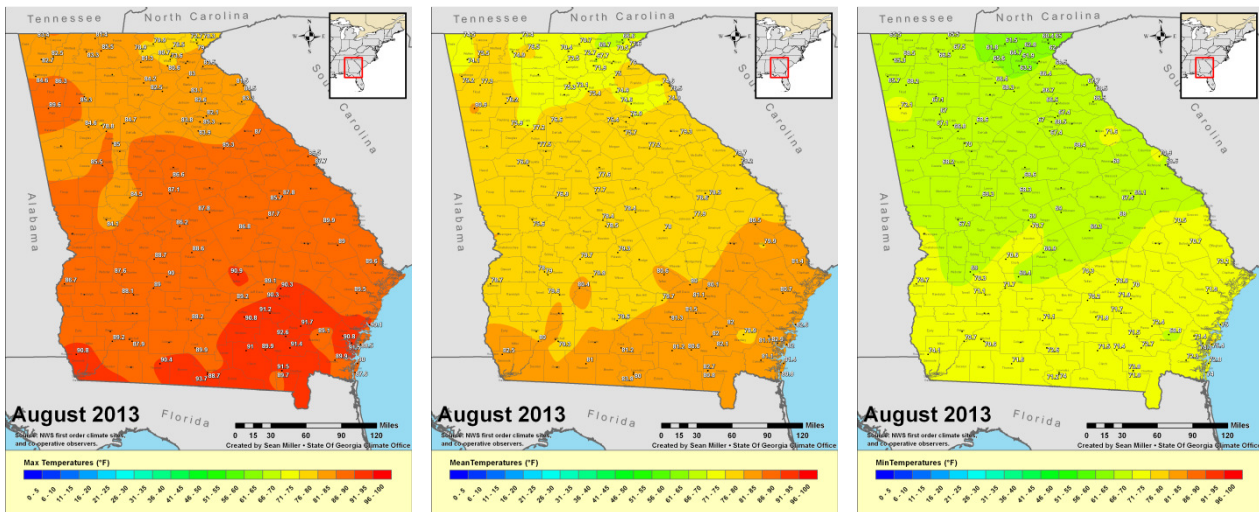

High temperatures during the warm spell.

Much cooler weather prevailed from the 15th-18th, due to development of a pseudo-wedge across north and central Georgia, with many areas experiencing daily maximum temperatures of 10-20°F below normal. New daily low maximum temperature records were set during this period at Athens, Atlanta, Augusta, and Macon. Record low temperatures were also set or tied at Athens, Atlanta, and Columbus.

High temperatures during the cool spell from the 15-18th, and particularly cool low temperatures on the 26th.
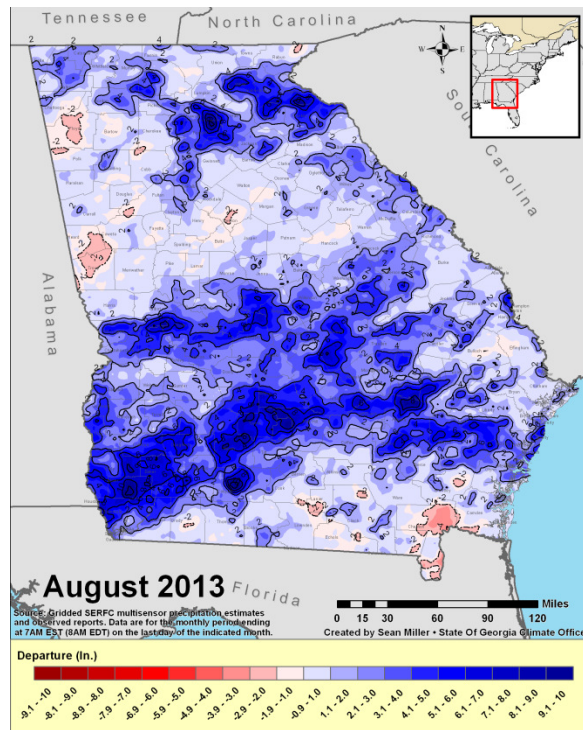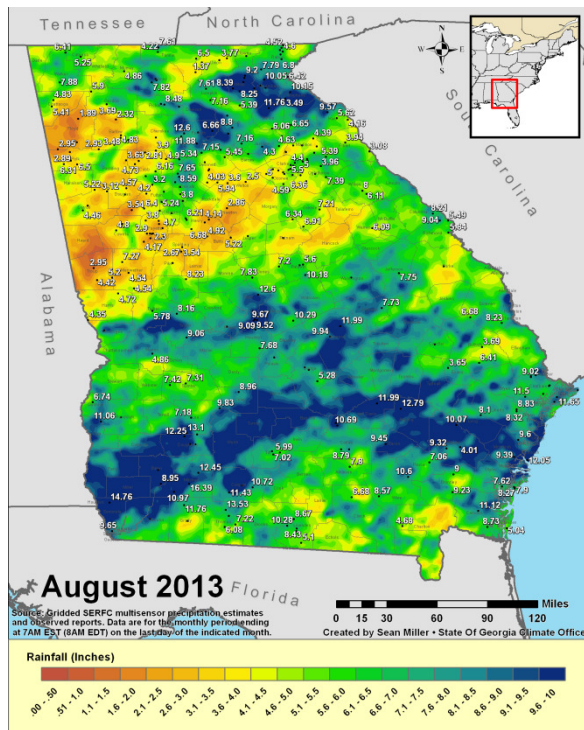
After a slight warm up during the 21st-23rd a dry continental airmass brought much cooler daily minimum temperatures from the 25th-27th. The month's coldest reading of 53°F occurred at the cooperative observing site near Clayton on the 26th.

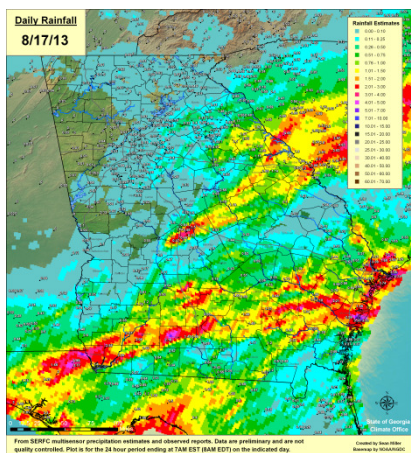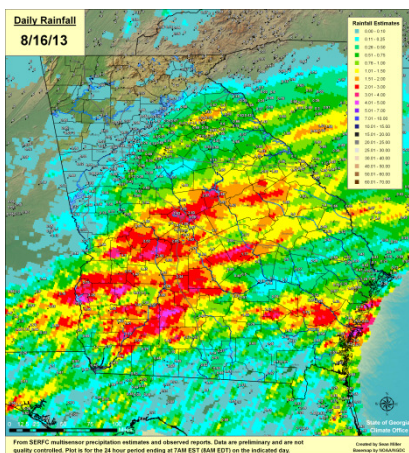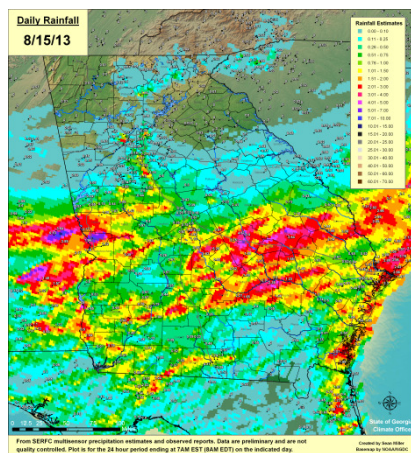**Average monthly high, mean, and low temperatures for August 2013.**

Precipitation

Most areas saw above normal rainfall during the month with the exception of a few isolated locations. Surpluses ranged from over 6-8 inches in the Southwest and North Central to 2 inches in the extreme southeast. Isolated deficits of up to 4 inches were noted southeast of Waycross.
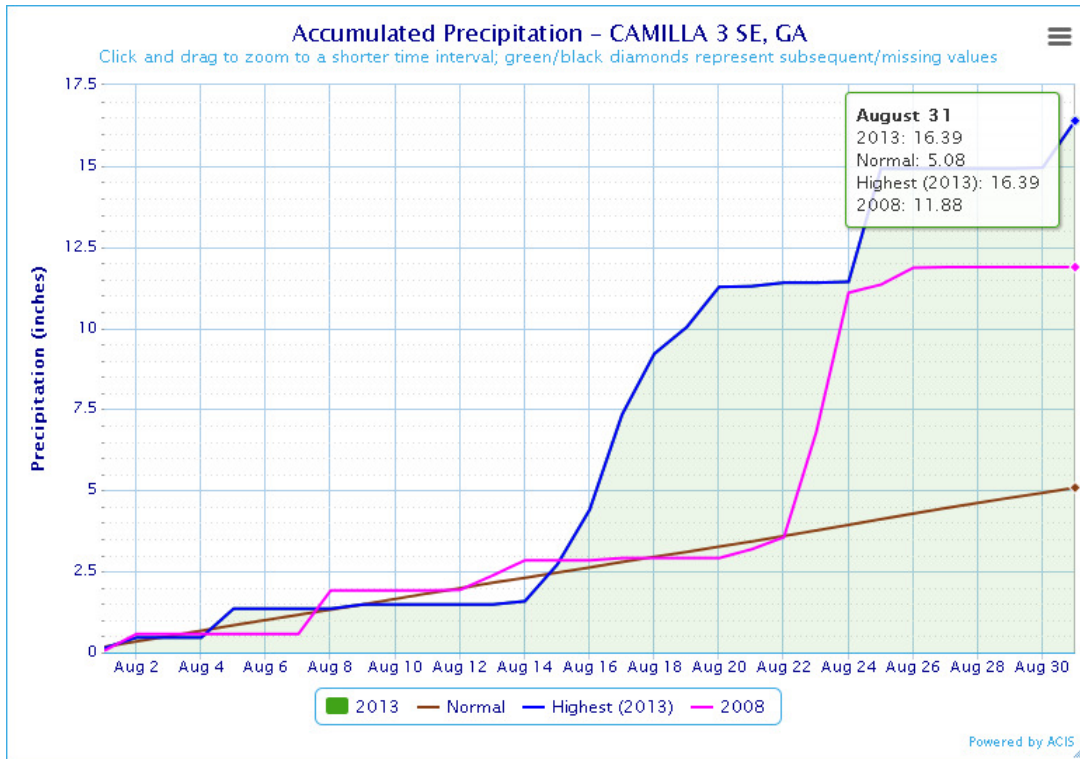
Total rainfall and rainfall departures for August 2013.

A particularly wet period occurred from the 14th-19th in association with a stationary front. On the 14th Columbus set new records for maximum daily rainfall both for the 14th and for any day in August with 5.73 inches. This is also the second highest total for any calendar day, falling just short of the record 5.74 inches set on April 1, 1984. Alma also set a new record daily maximum on the 16th with 2.20 inches, breaking a record of 1.94 inches set in 1971.

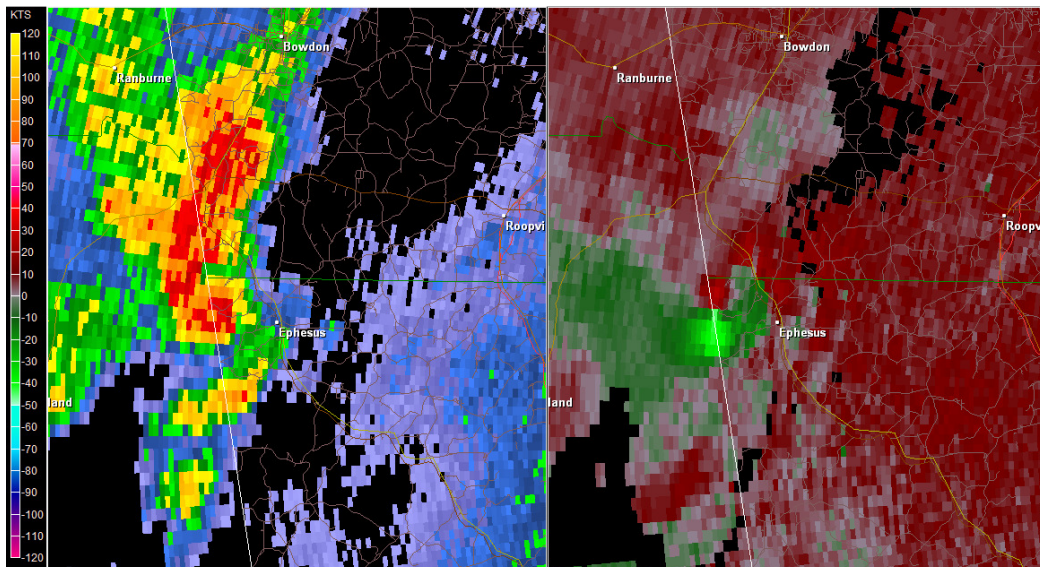Heavy rainfall associated with a stationary front from the 14th-19th

Several cooperative observing sites had their wettest Augusts on record, with notable monthly totals including 16.39 inches near Camilla and 14.76 inches in Donalsonville. Macon recorded its second wettest August on record with 10.20 inches, while Columbus observed its fourth wettest August with 8.63 inches.

Accumulated Precipitation – CAMILLA 3 SE, GA
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values

August 31
2013: 16.39
Normal: 5.08
Highest (2013): 16.39
2008: 11.88

2013   Normal   Highest (2013)   2008

Powered by ACIS

August rainfall near Camilla. 2013 is the new wettest August on record, breaking the old record of 11.88 inches in 2008.

Severe Weather and Flooding

A tornado occurred in Heard county on the 18th, producing damage consistent with an EF-1 rating. This tornado quickly formed in a convective cluster along a retreating wedge-front, and traveled four tenths of a mile causing roof damage to one mobile home. Numerous trees were snapped along its path. Many areas experienced localized flash flooding during the month. Gilmer County was particularly hard hit, with swift water rescues and infrastructure damage occurring on the 1st. Another round of heavy rain brought additional flooding and damage to the county on the 7th.

Radar reflectivity (left) and storm relative velocity (right) from the Heard County storm. Image courtesy of the National Weather Service in Peachtree City.

Climate Sites Statistics – August 2013

Location	Avg. Maximum Temperature (departure) Ranking*	Avg. Minimum Temperature (departure) Ranking*	Mean Temperature (departure) Ranking*	Total Rainfall (departure) Ranking*
Atlanta	85 (-3.1) T-29th coldest	70 (-0.7) T-48th warmest	77.5 (-1.9) T-56th coldest	5.24 (+1.34) 38th wettest
Athens	85.3 (-4.7) 10th coldest	68.5 (-0.9) T-55th warmest	76.9 (-2.7) T-16th coldest	5.68 (+2.15) 27th wettest
Augusta	87.7 (-4.1) T-13th coldest	68.6 (-0.7) 19th coldest	78.2 (-2.4) 12th coldest	5.84 (+1.52) 39th wettest
Columbus	88.7 (-2.7) T-9th coldest	72 (-0.4) T-23rd warmest	80.4 (-1.5) T-24th coldest	8.63 (+4.86) 4th wettest
Macon	87.7 (-3.7) T-12th coldest	69 (-1.3) T-22nd coldest	78.4 (-2.5) 8th coldest	10.2 (+6.10) 2nd wettest
Savannah	89.6 (-1.0) T-69th warmest	73.2 (+0.8) T-46th warmest	81.4 (-0.1) T-49th warmest	7.03 (+0.47) 57th wettest

*T denotes tie