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Summer 2011 – In a word, Hot

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The summer of 2011 was one of the hottest on record for Georgia. Atmospheric scientists, climatologists and meteorologists define summer as the months of June, July and August.

Based on the average mean temperature, Alma, Athens, Augusta, Columbus and Savannah, as well as Tallahassee, Fla., all experienced the hottest summer on record.

Atmospheric scientists define the “mean” temperature as high temperature plus the low temperature for a day divided by two. For example, if the high temperature was 90 F and the low temperature was 70 F, the mean temperature for a day would be 80 F. The “average mean” temperature is simply the average of the daily mean temperatures for period of time.

Macon and Chattanooga, Tenn. experienced their second hottest average mean summer temperature on record, while Atlanta experienced the third-warmest summer.

Other than the average mean temperature, average high temperature or the average low temperature can also be used to gauge the heat of summertime.

Temperatures and rainfall rankings for Georgia and its border cities with at least 60 years of climatological data shows that all locations were ranked in the top three summers for temperature using average mean or average high temperatures. Precipitation rankings ranged from the driest on record at Tallahassee to the 26th driest at Columbus.

The following data analysis is based on preliminary data. Results may change slightly as the data is checked for accuracy.

For Alma, with 63 years of data, 2011 was the warmest summer on record, with an average mean temperature of 84 F (3.2 F above average). The previous record was 83.1 F set in 2010. Based on the average high temperature, it was also the warmest summer on record with an average high temperature of 96.2 F (5 F above average), breaking the previous record of 95.1 F set in 1954. The summer rainfall for Alma was 12.18 inches (4.82 inches below average), making it the 11th driest summer on record.

For Athens, with 108 years of data, 2011 was the warmest summer on record, with an average mean temperature of 82.2 F (4.1 F above average). The previous record was 1931 with an average of 82 F. Based on the average high temperature, 2011 was the second-warmest summer with an average high temperature of 94.7 F (6.1 F above average) with 1925 being the warmest

on record at 95.8 F. The summer rainfall for Athens was 6.34 inches (5.79 inches below average) making it the 8th driest summer on record.

For Atlanta, with 133 years of data, 2011 was the third-warmest summer on record, with an average mean temperature of 82.3 F (3.6 F above average). Only the summers of 1980 and 1993 were warmer with average mean temperatures of 82.7 F and 82.3 F, respectively. The 1993 average mean temperature was 0.01 warmer than 2011. Based on the average high temperature, it was also the third-warmest summer on record with an average high temperature of 92.5 F (4.5 F above average) with 1980 (92.9 F) and 1993 (92.5 F) being warmer. The average high temperature in 1993 was 0.02 F warmer than 2011. The summer rainfall for Atlanta was 6.38 inches (6.04 inches below average), making it the 9th driest summer on record.

For Augusta, with 138 years of data, 2011 was the warmest summer on record, with an average mean temperature of 83.7 F (4.5 F above average). The previous record was 1993 (83.4 F) followed by 2010 (82.9 F). Based on the average high temperature, 2011 was the warmest summer on record with an average high temperature of 97.1 F (6.5 F above average) with the previous record being 1993 (96.5 F) followed by 2010 (94.7 F). The summer rainfall for Augusta was 7.22 inches (5.52 inches below average) making it the 11th driest summer on record.

For Columbus, with 64 years of data, 2011 was the warmest summer on record, with an average mean temperature of 84.6 F (3.8 F above average). The previous warmest summer was 2010 with an average mean of 84.4 F. Based on the average high temperature, it was also the warmest summer on record with an average high temperature of 95.2 F (4.5 F above average), beating the old record set in 2010 of 94.3 F. The average low temperature was 74.0 F (3.2 F above average) just behind the 2010 record of 74.1 F. The summer rainfall for Columbus was 11.68 inches (0.65 inches below average), making it the 26th driest summer on record. Columbus was the only major city in the state to have near normal summer rainfall.

For Macon, with 81 years of data, 2011 was the second-warmest summer on record, with an average mean temperature of 83.4 F (3.8 F above average). Only the summer of 1954 was warmer with an average mean temperature of 83.5 F. Based on the average high temperature, 2011 was also the second-warmest summer with an average high temperature of 95.8 F (5.2 F above average) with 1954 being the record with an average high temperature of 96.3 F. The summer rainfall for Macon was 8.33 inches (3.32 inches below average), making it the 11th driest summer on record.

For Savannah, with 138 years of data, 2011 was the warmest summer on record, with an average mean temperature of 84.0 F (3.4 F above average). The previous record summer was 2010 with an average mean temperature of 83.9 F. Based on the average high temperature, 2011 was also the warmest summer on record with an average high temperature of 94.6 F (3.8 F above average). The previous record was 1993 with an average high temperature of 94 F. The summer rainfall for Savannah was 13.77 inches (4.77 inches below average) making it the 22nd driest summer on record.

For Chattanooga, with 84 years of data, 2011 was the second-warmest summer on record, with an average mean temperature of 82.1 F (4.1 F above average). Only the summer of 2010 was

warmer with an average mean temperature of 83 F. Based on the average high temperature, it was also the third-warmest summer with an average high temperature of 93.2 F (5 F above average). The summers of 1993 and 1952 were warmer with average high temperatures of 93.9 F and 93.3 F, respectively. The summer rainfall for Chattanooga was 7.83 inches (4.48 inches below average), which is a tie for the 12th driest summer on record.

For Tallahassee, with 115 years of data, 2011 was the warmest summer on record, with an average mean temperature of 84.3 F (2.7 F above average). The previous record was set in 1998 at 84.3 F. The summer of 2011 was 0.09 F warmer than 1998. Based on the average high temperature, it was also the warmest summer on record with an average high temperature of 95.8 F (4.3 F above average), eclipsing the previous record of 95.1 F set in 1998. The summer rainfall for Tallahassee was 10.90 inches (11.09 inches below average), making it the driest summer on record. The previous record-dry summer in Tallahassee was 1918, which had only 11.44 inches of rain

Up-to-date information on dry conditions across Georgia can be found at www.georgiadrought.org. Updated weather conditions can be found at www.georgiaweather.net.