



Location: **Oconee River near Athens – Georgia**

Issued: November 15, 2007

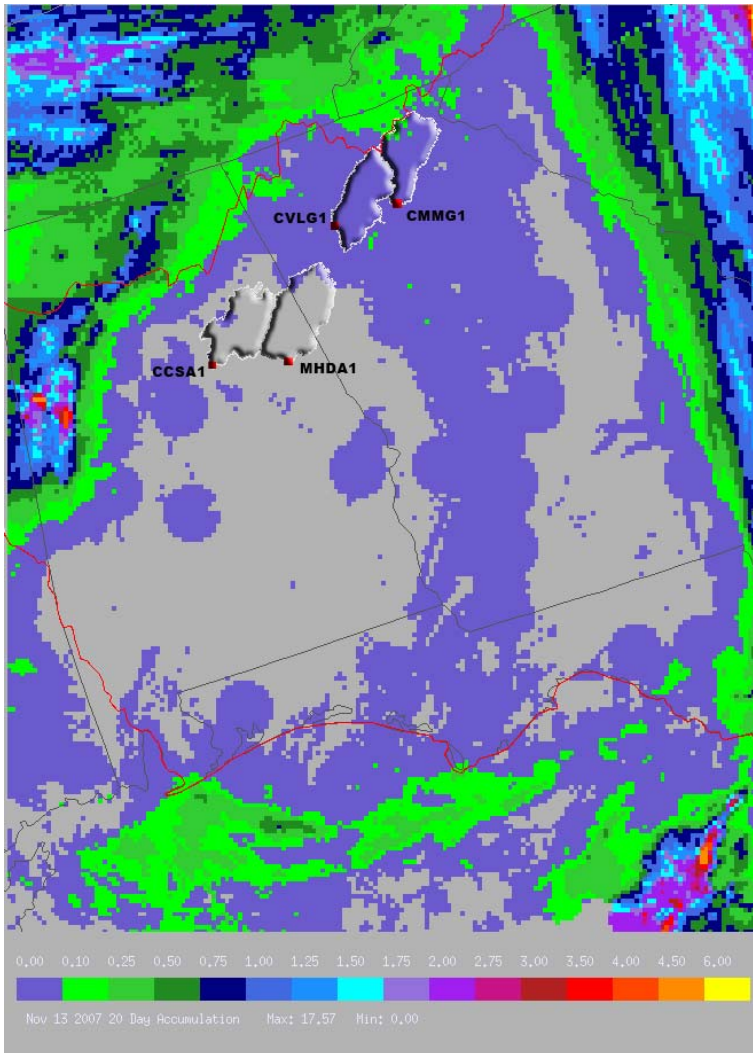
...Significant Drought Relief Not Expected Into Early December...



Our Forecast – Key Points

- A little more rain, but minimal hydrological significance.
- Increasing frontal passages, but fast movement will limit rainfall.
- Three to four inches of rainfall needed before significant runoff and reservoir inflow commences.


Hydrometeorological Basin Analysis




Some of the driest weather of the fall occurred over the past few weeks. Following is a multi-sensor rainfall estimate from the Southeast River Forecast Center for a 20-day period ending November 13th.

Lakes Lanier (CMMG1) and Allatoona (CVLG1) in Georgia and Logan Martin (CCSA1) and Harris Reservoirs (MHDA1) in Alabama are highlighted.

All of these drainage areas received less than 0.10 inches of rainfall since late October. Many of these areas are a foot or more below normal rainfall for the year.

 0.10 inch or less rainfall.

 Virtually zero rainfall for a 20-day period ending November 13th.

Looking Ahead Into December



Last week, several numerical (medium-range) meteorological models hinted at a significant rain event for the Southeast U.S. with the possibility of one to three inches of rain over North Georgia. This event was forecast to be similar to our last decent rain event way back in mid October. At that time, a cut-off low developed and remained stationary over Alabama, funneling abundant moisture northward from the Gulf and in from the Atlantic.

Unfortunately, these models gradually began to downplay the rain system as it neared, forecasting less than a half inch for north Georgia.

Meteorological models typically trend towards climatology beyond seven days out. Late November and early December is a transition time as we head from fall into winter. Models tend to forecast “typical” weather after seven days.

One issue we have this year is that it is definitely not “typical.” As we head into December, the area transitions from the dry and quiet fall into the more volatile winter, with stronger weather systems. Often times, a surface low will develop which will help transport moisture from the Gulf of Mexico into the Southeast U.S., thereby increasing chances of rain.

While this is what would typically happen, there is currently no sign for this transition to occur anytime soon. Current weather patterns seem to be about three weeks behind schedule. Thus, the short-term weather is tending towards a quiet fall pattern than a more active winter regime.

For the rest of November, quick hitting cold fronts will bring deep upper troughs into the Southeast U.S., with pushes of very chilly air. These fronts are expected to move so fast

that there will not be enough time for the transport of moisture from the Gulf. Unfortunately, this will limit the chance for significant rainfall.

Looking ahead through November into early December, northern portions of Georgia and Alabama will see one or two cold front passages per week, each with a chance of rain. Due to the progressive nature of these fronts, each rain event will last for only a six-hour period or so. Total basin average rain accumulations through the end of November will be 1.0 to 1.5 inches across north Georgia.

Longer-range climate models predict a dry December, but by the end of November it will be evident whether or not a shift into a winter weather pattern will happen anytime soon ...or not.

Inflow Considerations

Once rains start, needed inflows into reservoirs will not immediately commence. The SERFC has calculated some general inflow scenarios.

Inches of Rainfall	Hydrologic Impact Across Northern Alabama/Georgia
1 inch	Minimal runoff and inflow. Modest recharge of upper soils. No change in reservoir elevations due to inflow.
2 – 3 inches	Minimal runoff and inflow. Significant recharge of upper soils. Steady reservoir elevation or minimal rise due to increased inflows.
3 – 4 inches	Start of more significant runoff and inflow. Notable rises on smaller tributaries. Slight to modest rises on larger streams. Modest reservoir elevation rises due to increased inflows.
4 – 6 inches	Significant runoff and inflow. Significant rises on smaller tributaries. Notable rises on larger streams. More significant reservoir elevation rises due to increased inflows.

In summary, improvement in reservoir pool elevations will depend on the intensity, duration, and frequency of rain events. Rough estimates would indicate that it will take three to four inches of rainfall before inflows increase to such a degree to produce modest reservoir rises.

Longer-Term Outlook

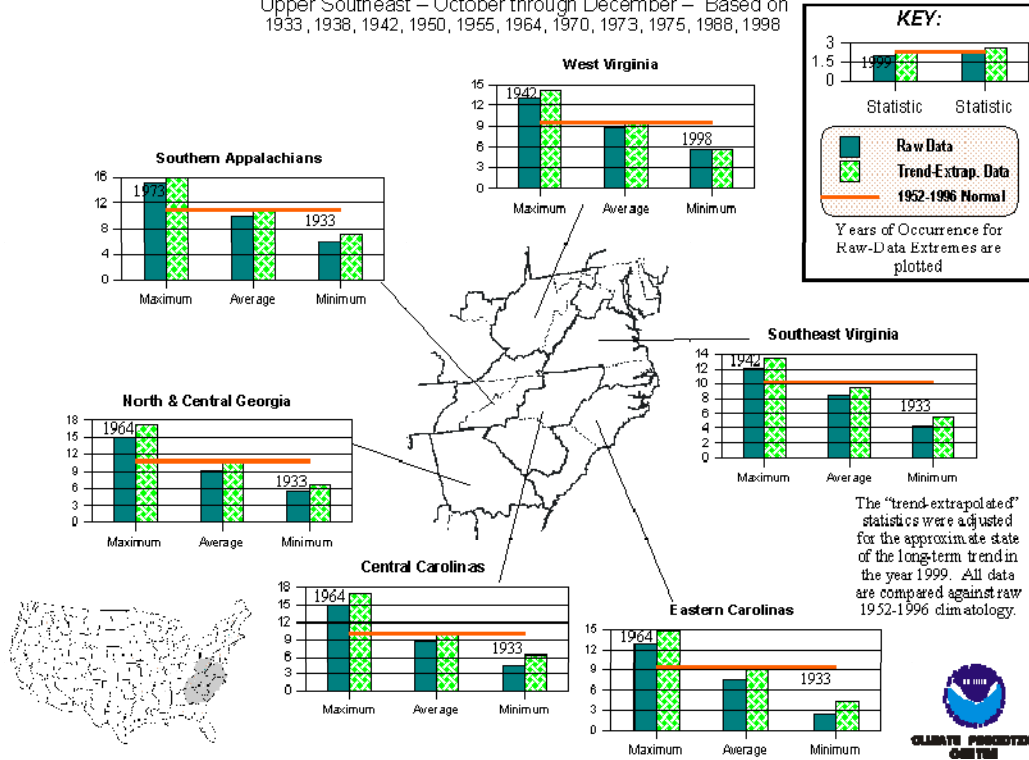
The Climate Prediction Center's (CPC) forecast for November through January continues to show an elevated chance for below-normal precipitation. An explanation of what these percentages mean can be found in the last two Critical Water Watch issuances. This forecast is based on strengthening La Nina conditions in the equatorial Pacific Ocean. Signals from previous La Ninas are represented in figure 1. The north and central Georgia regions are represented in this schematic produced by CPC.

Average rainfall for the October through December time frame is near 11 inches, with the average during La Nina years being between 9 and 10 inches. There have been years that have been well above and well below normal based on a La Nina signal. The Ohio and Tennessee River Valley areas tend to be wet during the winter during a La Nina event. Therefore, the gradient between above and below normal is just north of Georgia. This leaves north and central Georgia with more potential for improvement for the rest of the fall season and early winter.

Figure 1.

La Nina Precipitation Averages and Extremes (inches) – Raw and Trend-Extrapolated

Upper Southeast – October through December – Based on 1933, 1938, 1942, 1950, 1955, 1964, 1970, 1973, 1975, 1988, 1998



As we shift out of the dry fall season and move towards winter with lower evapotranspiration rates, December and January should offer a better opportunity to see improvement. The next Critical Water Watch in mid November will begin to look at winter rainfall potential.

Technical Discussion

The figures below are two Ensemble Streamflow Prediction (ESP) forecasts for the Middle Oconee River near Athens. Figure 2 was initiated on 10/15 and Figure 3 on 10/29. The window of the forecast remained 45 days and therefore the second forecast included half of December in its prediction. This is probably the largest reason for the minor change in the forecast as we move closer to the winter wet season and out of the typically dry fall season.

Unless tropical activity is normal to above normal in the fall, we can expect rivers, creeks, and reservoirs to recede due to higher evapotranspiration rates than rainfall.

Figure 2

Chances of Not Exceeding River Levels on the M-FORK OCONEE RIVER at ATHENS-MID OCONEE
Latitude: 33.9 Longitude: 83.4
Forecast for the period 10/15/2007 - 11/30/2007
This is a conditional simulation based on the current conditions as of 10/15/2007

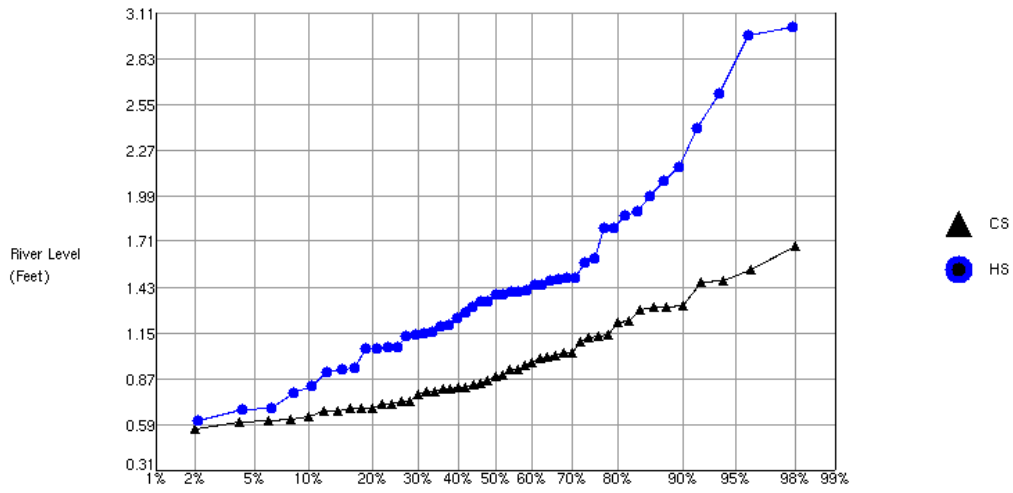


Figure 3

Chances of Not Exceeding River Levels on the M-FORK OCONEE RIVER at ATHENS-MID OCONEE
Latitude: 33.9 Longitude: 83.4
Forecast for the period 10/29/2007 - 12/15/2007
This is a conditional simulation based on the current conditions as of 10/29/2007

