

February 2008 NC Weather Review

Monthly Headlines

...Except for the coastal areas... precipitation remained below normal in February 2008...
...Extreme to exceptional drought conditions persisted...
...Temperatures were well above normal...

February 2008 Precipitation

There were several significant rain events that occurred across North Carolina during February, after one of the driest January's on record. The February precipitation totals were generally between 2 and 3 inches across the northwest, ranging to between 4 and 6 inches over the southeast and Outer Banks. These totals were generally less than an inch below normal, except 1 to 3 inches above normal along the coast. Raleigh-Durham totaled 3.16 inches (0.31 inches below normal). Greensboro totaled 2.65 inches in February (0.45 inches below normal). There were a few locations that reported above normal rainfall totals for February. These locations were confined to the coastal sites including: Elizabeth City, Cape Hatteras, and Wilmington. Cape Hatteras tallied a record February rainfall of 6.95 inches.

The February 2008 radar estimated rainfall totals are depicted in figure 1, while the observed rainfall totals and departures from normal for selected locations are depicted in figure 2.

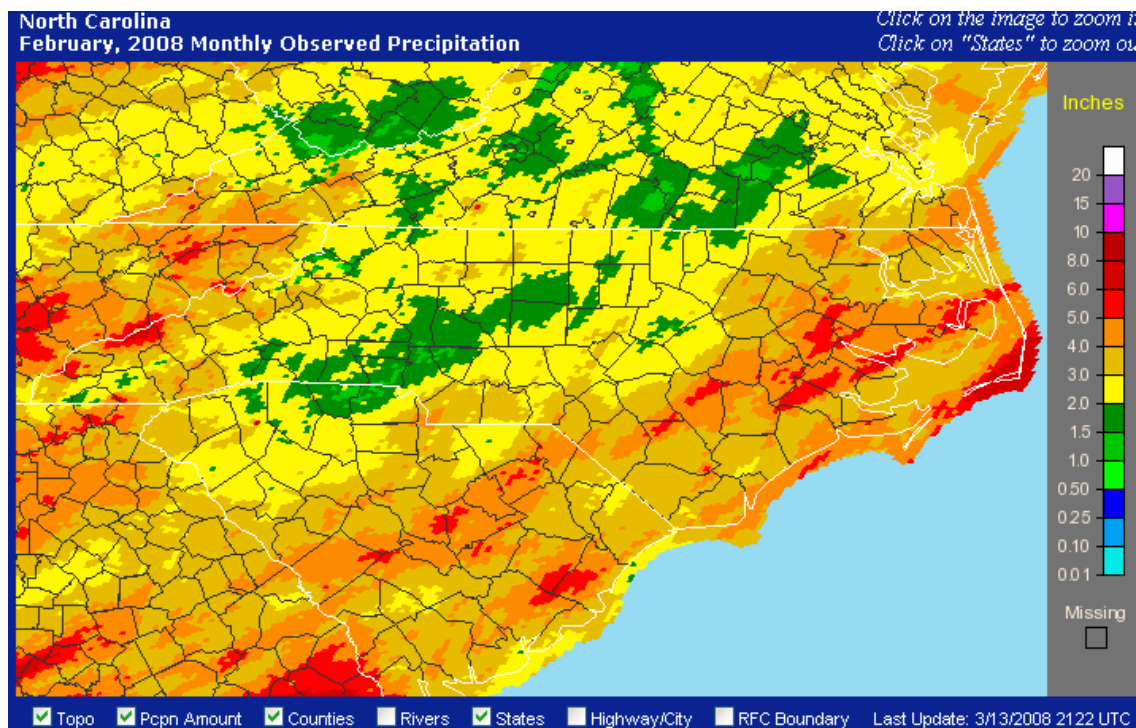


Figure 1. Radar estimated precipitation amounts for February 2008.

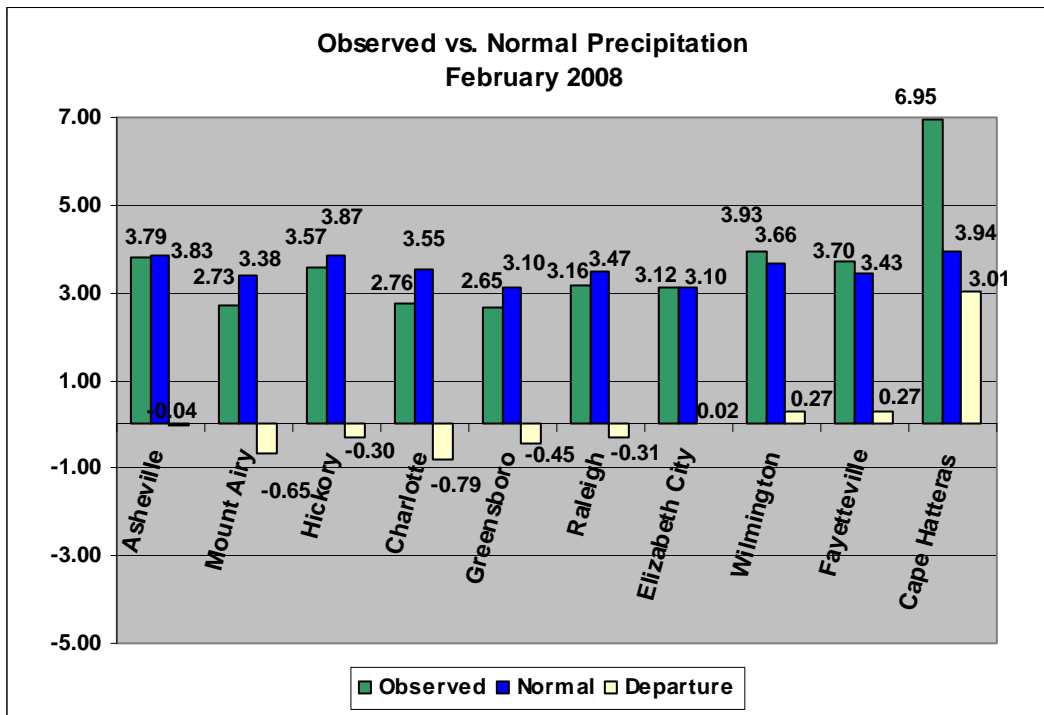
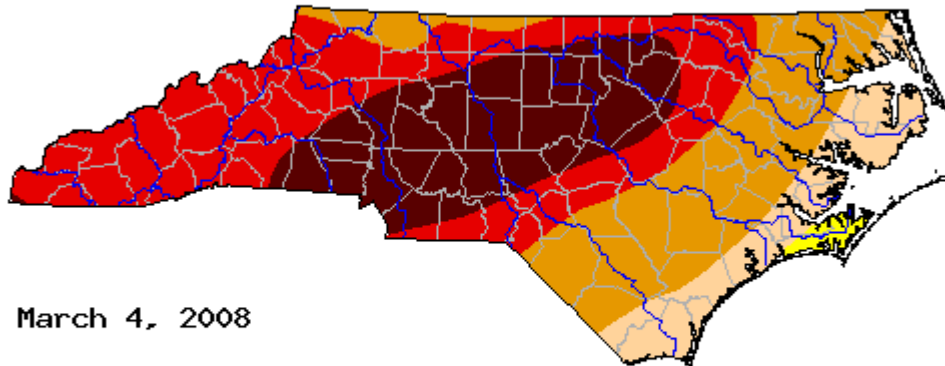


Figure 2. Comparison of observed and normal precipitation for February 2008 at selected locations across North Carolina.

The stream flow into main stem rivers and local reservoirs did show some slight increase from the near historical record lows that were set in January. The North Carolina Drought Monitor, shown in figure 3, highlights the exceptional drought conditions throughout the interior sections of state as of March 4, 2008.

US Drought Monitor of NORTH CAROLINA



March 4, 2008

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

□ County Boundaries □ Major River Basins ([View Map](#))

[Hi-Resolution PDF](#)

The U.S. Drought Monitor focuses on broad scale conditions. Information provided for North Carolina is relative to the information provided from all other states and the North Carolina Drought Management Advisory Council. Local conditions may vary.

Figure 3. N.C. Drought Monitor observed on March 4, 2008.

For the latest information concerning the drought, visit:
<http://www.ncwater.org/drought/>

February 2008 Temperatures

February 2008 temperatures were much above normal across North Carolina. The statewide monthly temperatures generally ranged between 3 and 5 degrees above the 30 year statistical normal.

Raleigh-Durham averaged 48.0 degrees for February 2008, which was 5.0 degrees above normal. Daily record high temperatures of 76 and 77 degrees were set on the 5th and 6th respectively.

Greensboro averaged 45.3 degrees in February, which was 4.1 degrees above normal. Daily record high temperatures of 74, 69, and 71 degrees were set on the 5th, 6th, and 18th respectively.

The average monthly temperatures for selected areas across the state are shown in figure 4. Figures 5 and 6 depict the daily maximum and minimum temperatures observed throughout February 2008 at Raleigh-Durham (RDU) and Greensboro (GSO), respectively.

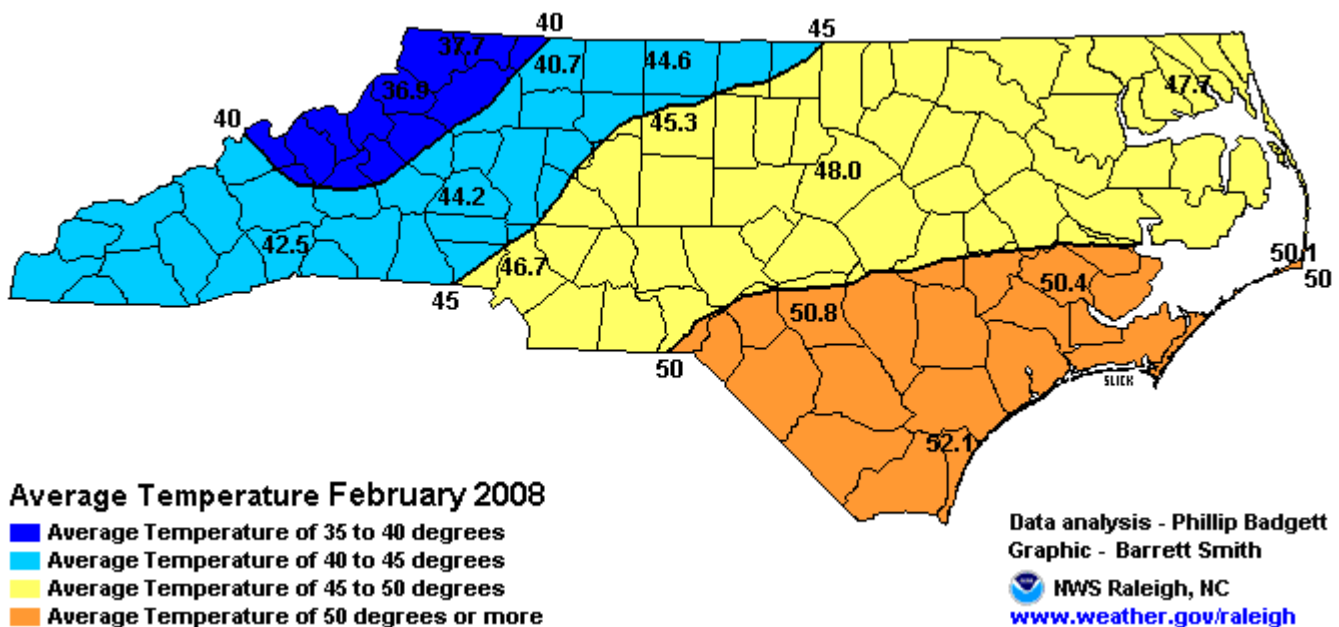


Figure 4. Monthly average temperatures for February 2008. Data was obtained from official NWS ASOS sites and selected unofficial cooperative observer reports.

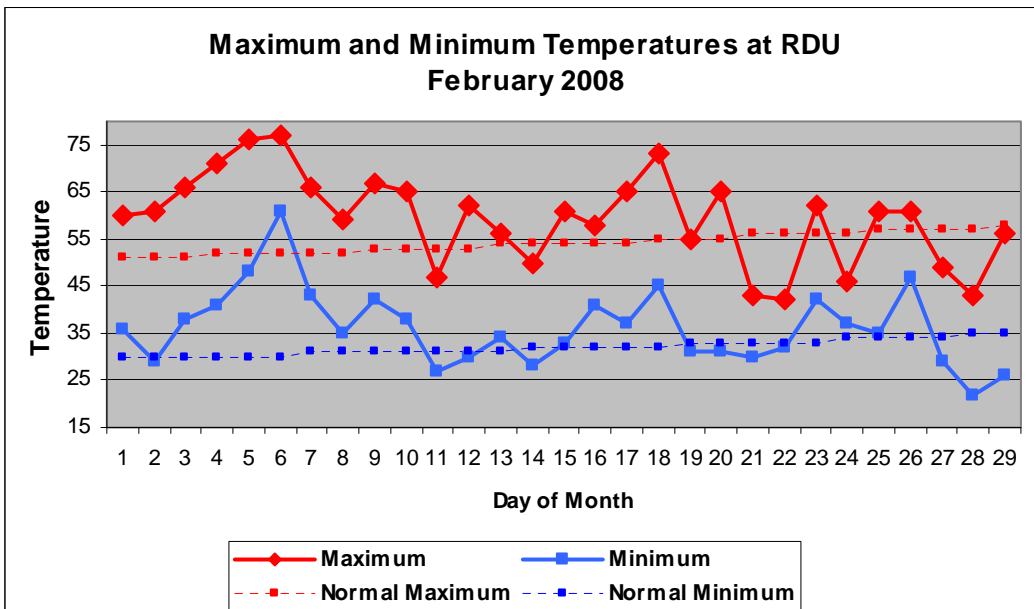


Figure 5. Daily maximum and minimum temperatures observed during February 2008 at Raleigh-Durham (RDU).

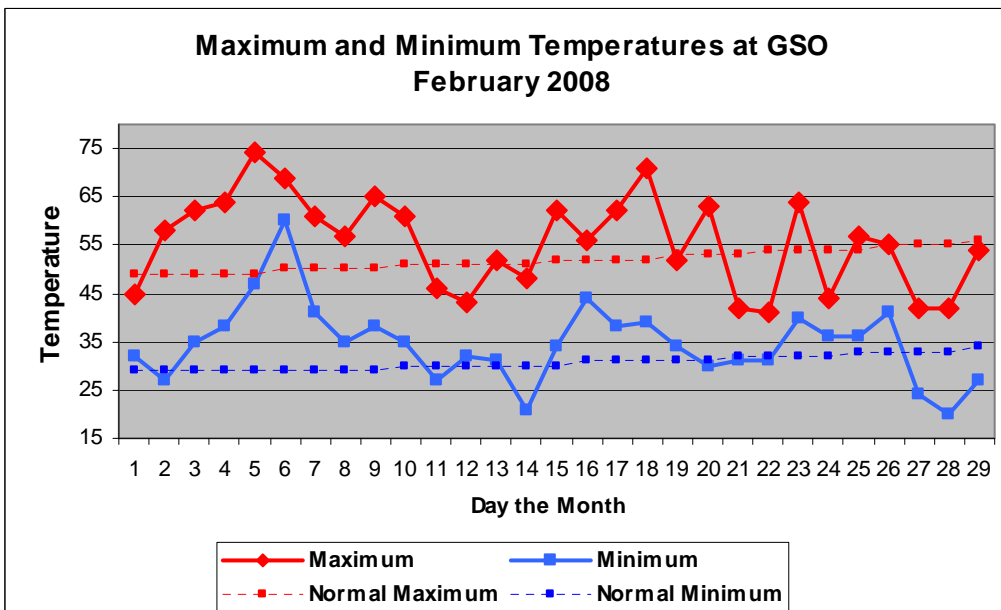


Figure 6. Daily maximum and minimum temperatures observed during February 2008 at Greensboro (GSO).

Significant weather events this month included:

<http://www4.ncsu.edu/~nwsfo/storage/cases/20080210/>

Current, Semi-Annual and Annual Temperature Trends

The warmth in February continued the recent trend of record setting warmth across North Carolina since August 2007. Six of the past seven months have been warmer than the 30 year statistical normals, some with record setting warmth. Only November 2007 had temperatures that were slightly below normal at Raleigh-Durham. Greensboro has had seven straight warmer than normal months.

Eleven of the past twelve months have been warmer than normal at Raleigh-Durham, and ten of the past twelve months have been warmer than normal at Greensboro (figure 7).

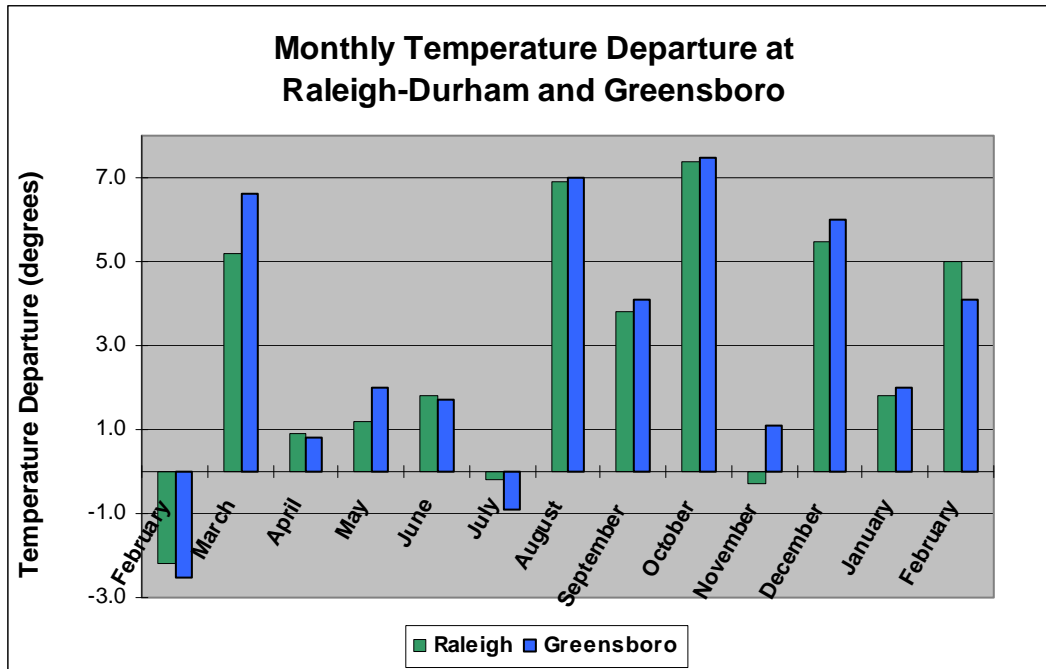


Figure 7. Monthly temperature departures from normal at Raleigh-Durham and Greensboro from February 2007 through February 2008.

Current, Semi-Annual, and Annual Precipitation Trends

Three of the past five, five of the past eight, and nine of the past 14 months have been drier than normal at Raleigh-Durham (RDU). The rainfall deficit at RDU since the beginning of the current long term drought in January 2007 (14 months ago) stood at 10.44 inches on March 1, 2008. At Greensboro, the rainfall deficit at Greensboro since January 1, 2007 was 14.83 inches (ending March 1, 2008). Figures 8 and 9 show the monthly precipitation versus normal at Raleigh-Durham and Greensboro, respectively, since February 2007.

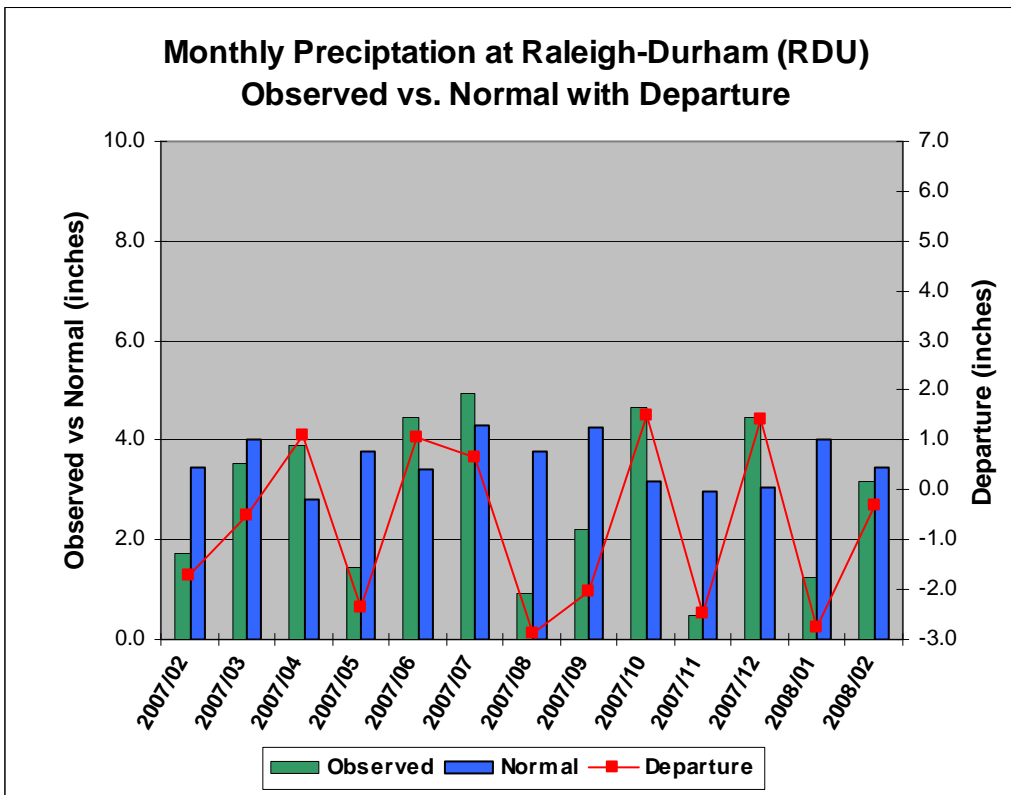


Figure 8. Semi-annual and annual precipitation trends at Raleigh-Durham (RDU).

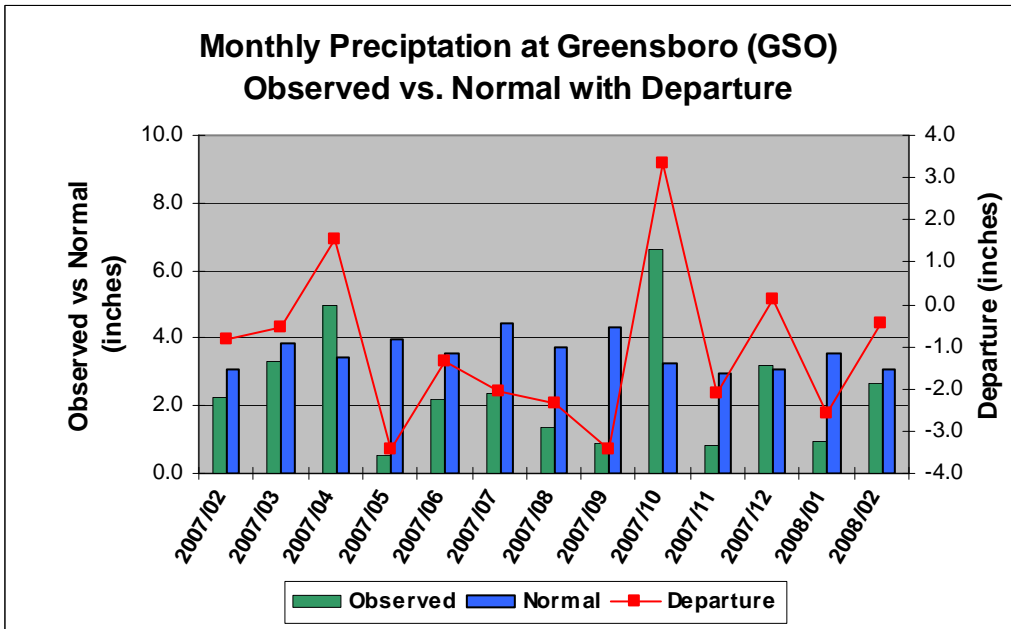


Figure 9. Semi-annual and annual precipitation trends at Greensboro (GSO).

North Carolina Water Resources Information and Outlook

The drought status essentially remained unchanged at the end of February 2008. Even with more frequent rains in February, the rainfall amounts were fairly light. The slightly below normal rainfall amounts over the interior of the state basically kept the drought status from worsening. Extreme to exceptional drought conditions remained over much of the interior sections of North Carolina on March 1st, 2008. Such drought conditions continue to impact the major metropolitan areas of Charlotte, Winston-Salem-Greensboro-High Point, and Raleigh-Durham.

The rainfall during February allowed the stream and even main stem river levels over central North Carolina to show occasional slight increases. There was even rainfall to allow an increase in water inflow into Jordan and Falls Lakes, the water suppliers for Raleigh, Cary, and surrounding municipalities. Falls Lake, after falling to the all-time record low of 241.53 feet on December 25, 2007, increased to near 243.5 feet in early January 2008. The lake levels then tailed off to around 243.0 feet through early February, when some rise was again noted. A very gradual rise continued through much of February, with a peak recorded near 244 feet on February 28th. This was only up nearly 2.5 feet since the historical minimum recorded on December 25, 2007 (see figure 10 below).

Falls Lake Elevation

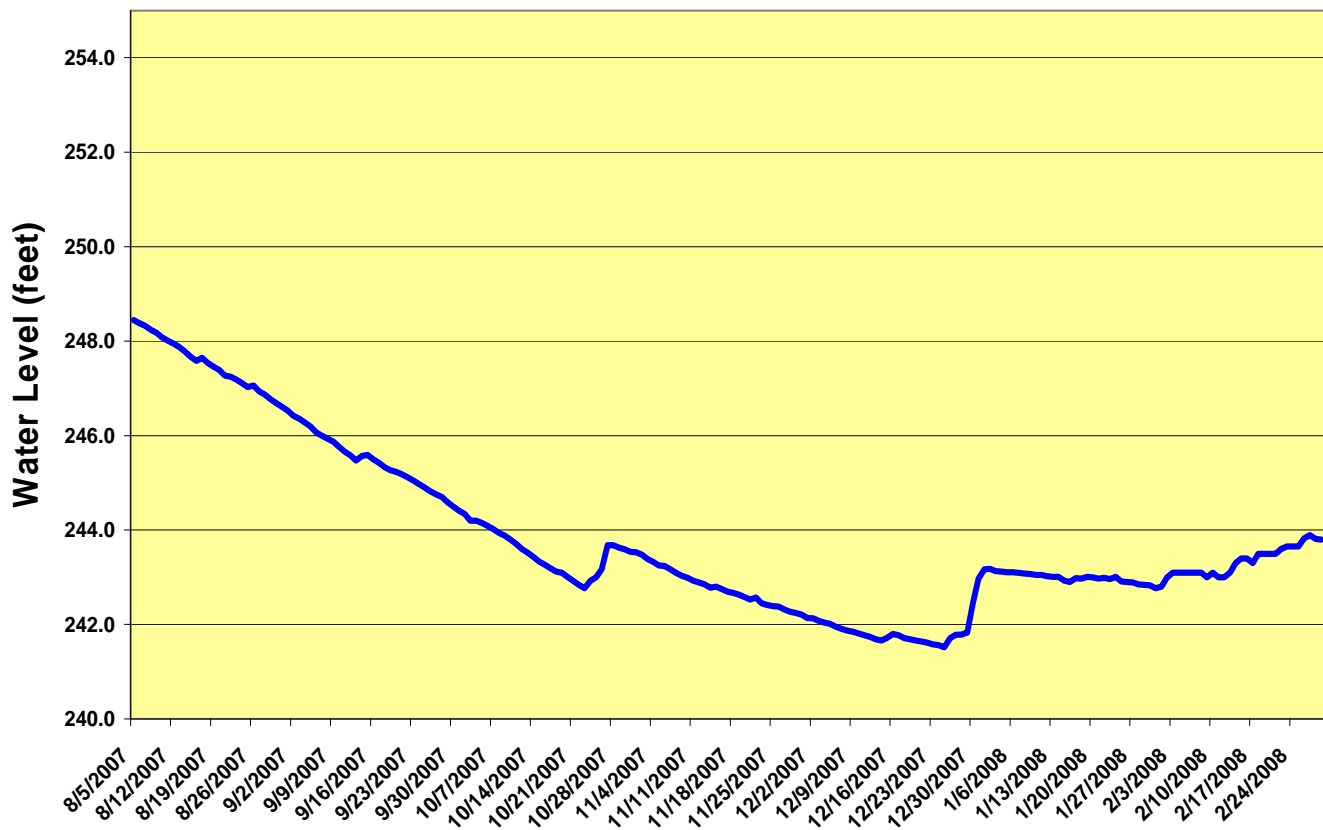


Figure 10. Falls Lake level August 2007 through February 2008. A new record minimum level of 241.53 feet was set on December 25 2007. Even through the region still tallied below normal rainfall during January and February 2008, the more frequent rains especially in February allowed the lake level to slowly come up nearly 2.5 feet by February 28, 2008.

Climate Outlook for the spring and summer of 2008

The Climate Prediction Center recently released the spring and summer outlooks. Details concerning this forecast can be found at the web address below:

<http://www.cpc.ncep.noaa.gov/products/predictions/>

The winter and early spring seasons are typically when streams, rivers, and reservoirs are replenished by the cool season rains. The outlook for the remainder of this spring season is for slightly elevated odds of our region to receive above normal rainfall in March; however, the outlook for April and May may not be as promising. The latest forecasts indicated slightly increased odds favoring below normal rainfall in April and May 2008 (reference figure 11 below).

The affects of the strong La Nina conditions over the Equatorial Pacific historically have brought sub par or below normal rainfall amounts throughout the southeastern United States including North Carolina during the winter and spring. The affects of La Nina precipitation patterns are reduced in the summer season and are not expected to be a factor. Therefore, there is a return to equal odds of our region receiving above, near, or below normal rainfall is forecast for the summer season. The seasonal drought outlook indicated that improvement in the drought conditions over North Carolina through May 2008 (reference figure 12).

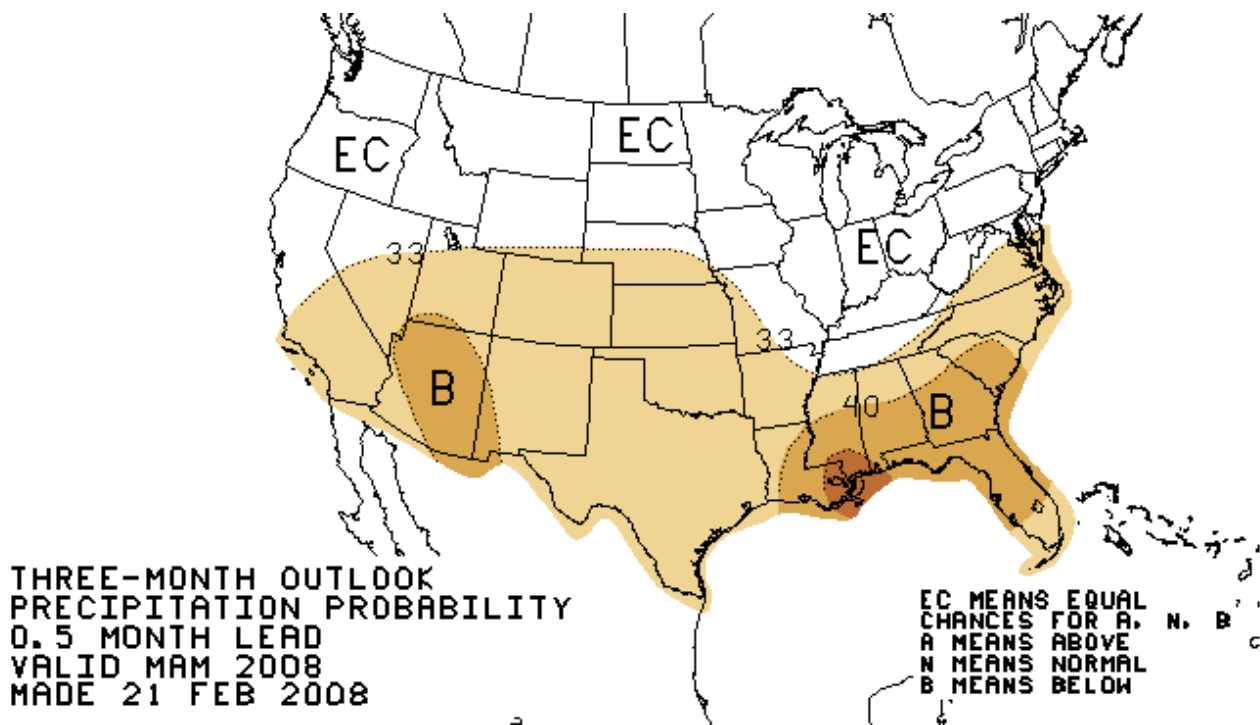


Figure 11. Precipitation Outlook from the Climate Prediction Center for March through May 2008.

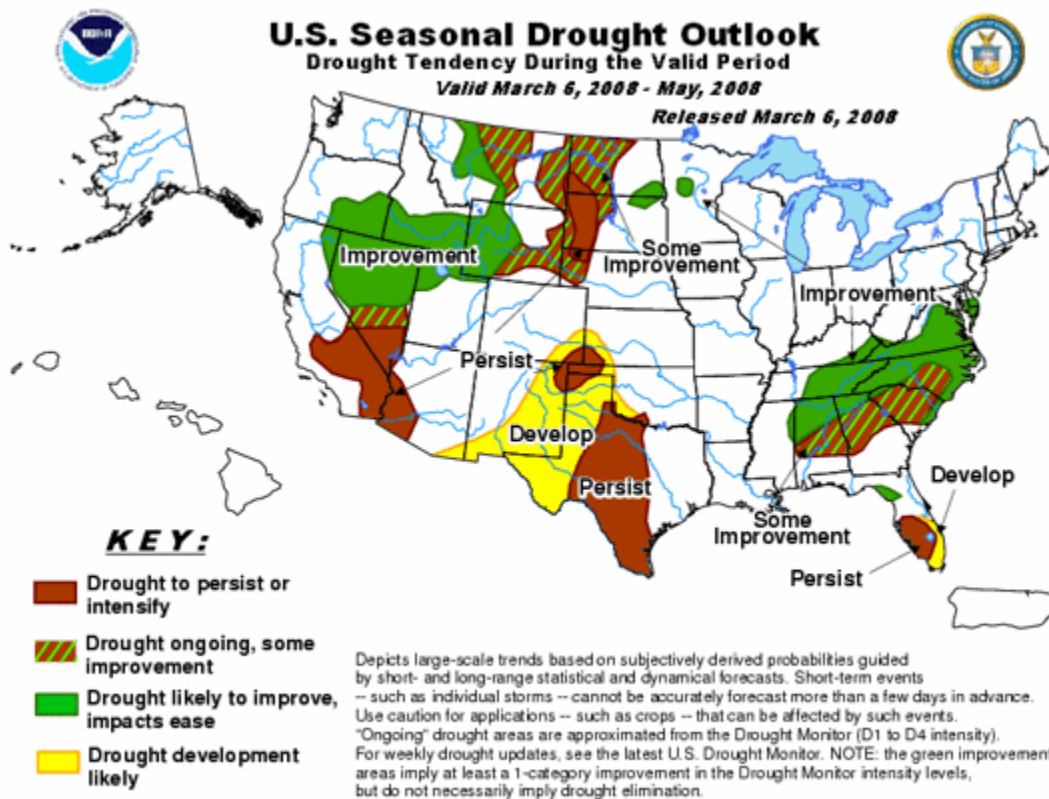


Figure 12. U.S. Seasonal Drought Outlook, valid through June 2008.

You can keep up with latest monthly and seasonal forecasts by visiting the Climate Prediction Center website at <http://www.cpc.ncep.noaa.gov/>.

Enhanced local three month temperature outlooks for central North Carolina are now available at http://www.weather.gov/climate/calendar_outlook.php?wfo=rah

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