

# SECC Winter/Spring Climate Outlook

Date Updated: February 16, 2012

**Current Conditions: Drought intensifies in much of the Southeast.** With the Pacific Ocean firmly entrenched in the second year of La Niña, drought continues to intensify over much of the Southeast as anticipated. La Niña refers to the appearance of unusually cold surface waters along the equator in the central and eastern Pacific Ocean and can be thought of as the opposite of the better-known El Niño. La Niña is known to trigger fall, winter, and spring climate patterns that are drier than normal and warmer than normal over much of the Southeast, being felt strongest over the peninsula of Florida, but also impacting the coastal Carolinas, south Georgia, and south Alabama. An unusually hot and dry summer followed last year's dry winter, so now the second year of fall and winter dryness has intensified drought over the Southeast to the level of "exceptional" in areas of South Georgia, Southeast Alabama, coastal South Carolina, and the Florida Panhandle. According to the U.S. Drought Monitor, nearly three quarters of the region is in some stage of drought at this time.

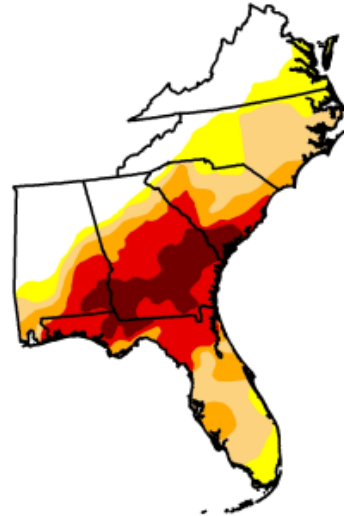
# U.S. Drought Monitor

## Southeast

February 14, 2012  
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	25.86	74.14	59.78	40.41	27.91	10.41
Last Week (02/07/2012 map)	26.78	73.22	58.18	37.91	23.82	7.15
3 Months Ago (11/15/2011 map)	40.37	59.63	47.52	34.81	23.90	0.00
Start of Calendar Year (12/27/2011 map)	40.38	59.62	43.05	28.62	18.71	0.00
Start of Water Year (09/27/2011 map)	42.24	57.76	41.82	31.77	23.48	0.00
One Year Ago (02/08/2011 map)	11.57	88.43	62.18	22.50	3.35	0.00



**Intensity:**



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

<http://droughtmonitor.unl.edu>



Released Thursday, February 16, 2012  
Rich Tinker, NOAA/NWS/NCEP/Climate Prediction Center

Temperatures thus far this winter have been much warmer than normal across the region, which is typical of La Niña. Last winter was an exception, where in spite of La Niña the region experienced one of the coldest December's on record. This year has been much warmer and chill hour accumulation has been much below normal over the Southeast.

For more detailed information on recent climatic conditions, please see our State climate summaries and press releases:

- [State Climate Summaries for Florida, Georgia, and North Carolina](#)
- [Mild drought returns to parts of Georgia](#)

Other climate monitoring resources

- [Florida Automated Weather Network](#)
- [Georgia Automated Environmental Monitoring Network](#)

- [Alabama Office of the State Climatologist](#)
- [Southeast Regional Climate Center](#)
- [NWS Radar-derived Precipitation Totals](#)

**La Niña returns for a second year in a row.** Last summer (2010) witnessed an abrupt change from El Niño to La Niña in the tropical Pacific Ocean. El Niño refers to a periodic (every 2-7 years) warming of the tropical Pacific Ocean along the equator from the coast of South America to the central Pacific, where La Niña is much the opposite phase where the same area cools down several degrees Celsius below normal. Both phases have dramatic impacts on the climate patterns of the Southeast, especially in the winter months. Last year's La Niña began as one of the strongest on record in August and September and maintained its strength through spring of 2011.

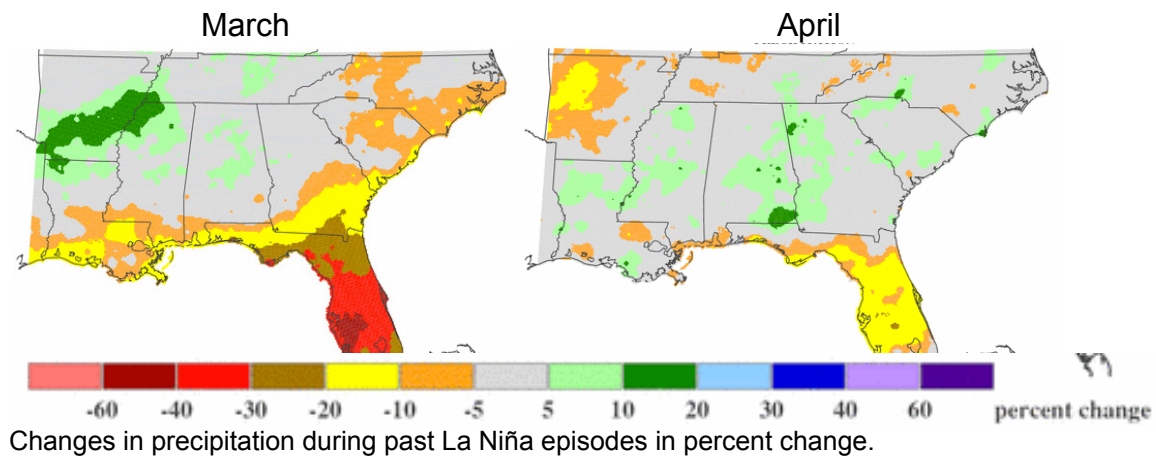
This past summer season saw a return to near-normal sea surface temperatures in the tropical Pacific (Neutral Phase), but the atmosphere continued to show signs of La Niña's influence in strong easterly low-level winds, lack of cloudiness or rain in the central Pacific, and negative SOI. In addition, La Niña's are often multi-year events, especially when the first year is a strong episode.

La Niña did indeed re-energize this fall and matured in November and December. Follow the typical life cycle, we anticipate La Niña persisting into the spring of the year before dissipating.

**Winter and Spring Outlook – La Niña brings greatly increased chance of warm and dry winter to the Southeast.** With much colder than normal ocean waters now in place in the tropical Pacific Ocean, it is nearly certain that La Niña will persist during the remainder of the winter and well into the spring season. La Niña conditions usually bring warmer weather to the entire region, with temperatures generally averaging 2 to 4 degrees F higher than normal from November through March.

La Niña also brings drier weather to much of the three states. During the winter season, the dry pattern actually pushes southward and intensifies over the peninsula of Florida and the immediate coasts of Alabama, Georgia, and the Carolinas, where average La Niña rainfall is 30% to 60% less than normal. Inland North Carolina, Central Alabama, central

Georgia, and northern Georgia usually see near normal rainfall during a typical La Niña. Strong events (like the last year's La Niña) can push the dryness further north and inland to cover all of Alabama and Georgia. This year's event is more moderate in strength and the line between dry conditions and more rainfall has set up where anticipated, as seen in the current U.S. Drought Monitor.



The reason for the rainfall patterns seen in January can be attributed to the predominant jet stream configuration that sets up during a La Niña winter. While the position of the jet stream will fluctuate with the passing of individual low pressure systems, fronts, and air masses, the preferred or average setup of the jet stream is that of high pressure or "ridging" over the Pacific near the U.S. west coast and low pressure or "troughing" over the mid-section of the country. This configuration tends to steer winter storms up the Mississippi Valley and Midwest. Unfortunately, this storm track often leaves the Southeast dry and the cold fronts with a little less punch.

The connection between rainfall patterns and the cold Pacific Ocean holds strong through the month of March, but then La Niña loses its influence once we get into April and the remainder of spring and summer. Spring and summer rainfall patterns are much less predictable than in the winter. Last year stayed very dry through April and May and into June, but this was not necessarily associated with La Niña and we are not forecasting Late Spring/Early summer to be as dry as 2011.

For more detailed information on El Niño climate shifts in your particular county, please refer to the Climate Risk Tool at AgroClimate:

[Climate Risk Tool](#)

**So what are the implications for the Southeast?** The warmer temperatures will impact winter crops and fruit production, resulting in less chill accumulation over the course of the winter season. Warmer temperatures will also mean greater evaporation rates. Due to the jet stream configuration described above, severe or damaging freezes are less likely during La Niña than in neutral years. However, the risk of early or late season freezes (like in April of 2007) does not seem to be affected by the Pacific Ocean.

The shift towards drier than normal conditions becomes much more pronounced in Florida and coastal Georgia, Alabama, and the Carolinas as fall progresses into winter, resulting in much higher confidence in a forecast of dry conditions in these areas. Keep in mind that winter rainfall is vital to the recharge of surface and groundwater in Georgia, Alabama, and the Carolinas. While the worsening of drought may slow during the winter months when demand is much lower, it may intensify quickly come spring. Summer evapotranspiration rates are greater than even normal rainfall, so heading into the spring with deficits already accumulating from winter is a sure recipe for rapid drought intensification. In Florida and southeast Georgia where drought concerns are lower right now with recent rainfall, there is a strong possibility for drought to reintensify this winter and spring. Wildfires will also be a concern, where studies show that La Niña normally leads to an active wildfire season in Florida and South Georgia.

For more information on how La Niña and the developing drought will affect crops this fall and winter, please reference the agricultural outlook on AgroClimate:

[Agricultural Outlook](#)