

La Niña weather in Florida should be warm!

The statewide temperature for December in Florida was more than 9 degrees F (5.0 degrees C) below the 20th century average. In addition; several cities including Miami, West Palm, Ft Lauderdale, Daytona, Orlando, Tampa, and Tallahassee had their coldest December on record. We had expected above average temps due to La Nina.

There is another ocean driven actress in the house called NAO-the NORTH ATLANTIC OSCILLATION or the Arctic Oscillation by some. In the ocean between Canada and Greenland, the ocean was very cold, creating a blocking High Pressure system. As a result the Atlantic winter storms stayed further south over the Gulf Stream extension. And got very strong. Their backside pulled very cold air down from Canada all the way to Florida.

The climate impacts of these two ocean driven climate events arrived over the Southeast US. La Nina giving us drought over the Florida peninsular and freezing air over all the SE US.

Climatologically speaking the big headlines for 2010 should be the fast transition from an El Niño phase that was in place earlier in the year to a moderate-to-strong La Niña around July of 2010. El Niño refers to a periodic warming of the tropical Pacific Ocean along the equator from the coast of South America to the central Pacific, that generally brings cooler and wetter winter and springs to the southeastern U.S. La Niña is the opposite phase caused by a cooling of the tropical Pacific Ocean and normally brings drier and warmer winter and springs to the Southeast U.S.

The transition to a moderate to strong La Niña by mid-year gave meteorologists at the state and federal levels the confidence to predict a drier and warmer winter this year. While we have been dry with total precipitation during the last 60 days ranging from 50% of the normal in most of the coastal plains and the southern region of the Florida peninsula to near average conditions in some areas of north-central Florida, this winter has been cold, very cold.

According to the NOAA National Climatic Data Center (NCDC), December of 2010 was the 3rd coldest winter on record in the Southeast U.S. and the coldest on record in Florida and Georgia.

You may be asking why no one predicted this. Unfortunately, NAO is more of an indicator of the jet stream pattern over the Eastern U.S. and the North Atlantic. Unlike El Niño and La Niña events, which can be predicted 6 months in advance, the NAO changes are not yet predictable on seasonal time scales. This causes problems with seasonal forecasts in general, and in particular to winter season temperatures forecast.

Medium-range weather prediction models are forecasting a break from this negative NAO pattern, which would allow the strong La Niña to re-establish its influence over the weather patterns in the Southeast. Warmer and continued dry weather is still the best forecast for the remainder of the winter and the transition to spring in the Southeast. Researchers are actively working on models that may eventually better predict the NAO

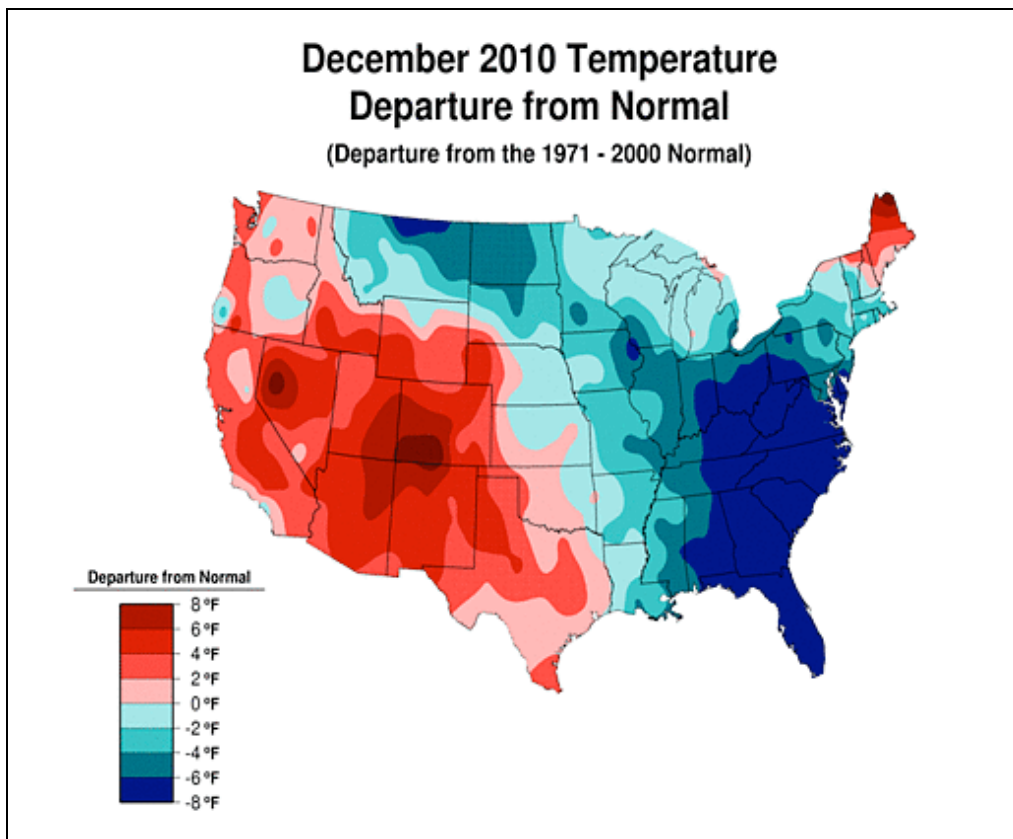
shifts.

Contact:

Dr. James O'Brien – Professor of Meteorology & Oceanography
Center for Ocean-Atmospheric Prediction Studies
Florida State University
jim.obrien@coaps.fsu.edu

David Zierden – State Climatologist
Center for Ocean-Atmospheric Prediction Studies
Florida State University
dzierden@coaps.fsu.edu

Dr. Clyde W. Fraisse – Climate Extension Specialist
Agricultural & Biological Engineering Department
University of Florida
cfraisse@ufl.edu



December temperature departure from normal - NOAA National Climatic Data Center. December 2010 was the third coldest December on record in the Southeast U.S. and the coldest on record in Florida and Georgia.