

# El Niño May Bring a Wetter Winter and Spring to the Southeast

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Conditions across the equatorial Pacific Ocean started shifting from neutral to El Niño last June and now have warmed to weak El Niño levels. During the Nov-Jan season, there is 90% probability of maintaining at least weak El Niño conditions, and a only a small chance (9%) of returning to ENSO-neutral conditions. El Niño could have dramatic impacts on the climate of the Southeast for the remainder of 2009 and early 2010. El Niño in the winter causes the jet stream current to dip into the Southeast. This provides cold fronts with more moisture and energy. El Niño typically leads to 40 to 50% more rainfall than normal for the Florida peninsula, and about 30% more than normal for South Georgia.

**Winter vegetables** such as tomato and green peppers generally yield less during El Niño years than during Neutral or La Niña years. Most soil-borne pathogens and fruit quality problems increase in El Niño years. Fruit quality problems like gray wall and bacterial and fungal diseases that are typically associated with wet climates can be more prevalent during El Niño winters. More information about potential impacts of El Niño on winter vegetables can be found on the following **EDIS publication**: <http://edis.ifas.ufl.edu/AE269>



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Nutrient management can also be affected by a wetter winter and spring as the frequency of leaching rainfall events increases, causing nutrients, mainly Nitrogen, to be washed out of the root zone, especially in fields irrigated by seepage irrigation. Recent studies demonstrated that during El Niño years, at least one leaching rainfall event of 1.0 inch or more in 1 day occurred in most locations where winter vegetables are grown in Florida and two of these events occurred in 9 out of 10 years.



El Niño may also impact other commodities. In general, El Niño years are good for **winter pasture** due to wetter conditions. However, growth may be slower due to increased cloudiness and consequent decrease in solar radiation. In the case of **forestry**, El Niño plantings (wetter conditions) are generally well established. However, under such conditions, plantings in very low lands might be avoided to minimize losses as excessive rains might drown seedlings. Wetter conditions may also have a negative impact on harvest operations. More information about El Niño

impacts on forestry and pasture can be found at the following **EDIS publications**:

- Using seasonal climate variability forecasts to plan forest plantation establishment: <http://edis.ifas.ufl.edu/AE282>
- Climate-Based Management Options for North Central Florida Beef Cattle Producers: <http://edis.ifas.ufl.edu/AE289>



In the case of **temperate fruits** (peach, nectarine, blueberry, strawberry), El Niño conditions generally result in increased chill accumulation in the early part of the winter (Nov-Jan) and can reduce the need for oil or other dormancy compensating sprays in peaches and blueberries. This year growers can keep track of chill accumulation by checking the *AgroClimate* chill accumulation tool that calculates the number of chill hours and chill units accumulated for all Florida Automated Weather Network (FAWN) stations across the state (<http://www.agroclimate.org/tools/ChillAccum/>). More information about chill accumulation monitoring and forecasting can be found at the following **EDIS publication**: [http://edis.ifas.ufl.edu/review\\_AE452?version=42330](http://edis.ifas.ufl.edu/review_AE452?version=42330)

Cooler rainy conditions may slow development rates in some perennial fruit crops such as strawberry. Lower levels of solar radiation resulting from cloudy conditions may also affect growth in some cultivars. Additionally, conditions may favor the development of fungal diseases such as Anthracnose and Botrytis fruit rots. Angular leaf spot (*Xanthomonas fragariae*) is another disease that is favored by cool wet winters (EDIS publication: <http://edis.ifas.ufl.edu/PG056>). Thus, in contrast with the 2008-09 winter season, when we had a La Niña year that is typically drier than normal, and consequently had very little disease, growers should be alert and prepared for a coming season with potentially higher disease pressure.



Row crops that may be impacted by El Niño in the Southeast are mainly small grains (winter and spring wheat, oats, barley, and rye). The increased exposure to low temperatures (chill accumulation) in the early part of the winter (Nov-Jan) may accelerate flowering, specially those varieties with high vernalization requirements. Rainy conditions that occurred over most of the Southeast during this Fall season have delayed the harvest of summer crops (corn, peanuts, and cotton which is causing delay in planting winter crops. Late planting of winter crops, especially wheat, could reduce the risk for Hessian

Fly colonization and Aphids reproduction early in the season as well as winter population built up. In contrast, increases in the amount and frequency of rain may reduce tillering in clay soils with high water holding capacity or soils with poor drainage. In North Alabama, where this type of soils are predominant, growers could expect yield reductions if rainy conditions continue.