

La Niña Impacts on Agriculture in the Southeast

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La Niña conditions have abruptly returned to the Pacific Ocean. La Niña can be thought of as the opposite of El Niño and usually bring a **warmer and drier spring seasons** to Florida, central and lower Alabama and central and southern Georgia. La Niña events in 1999 and 2000 and more recently in early 2006, were associated with an increase in forest fires across Florida and Georgia. La Niña is also known to be associated with an active tropical hurricane season. For more information refer to our last climate outlook available at http://agroclimate.org/forecasts/current_climate_outlook.php

Below is a quick review of the potential effects of La Niña on our agricultural industry. The links in the table below point to more detailed discussions available at Agroclimate.org or UF-EDIS and UGA publications available online. **For more information, contact your local extension agent.**

Crop/Commodity	Potential La Niña Impacts
Winter vegetables (tomato , green peppers)	Tomato and green peppers generally yield more during La Niña years than during Neutral or El Niño years. Dry weather generally decreases fungal and bacterial diseases and help growers reduce the number of fungicide applications, however viruses caused by thrips (Tomato Spotted Wilt [TSW]) and white fly (Tomato Yellow Leaf Curl [TYLCV]) are problems. EDIS publication: Using Seasonal Climate Variability Forecasts: Risk Management for Tomato Production in South Florida
Forestry	Warm and dry conditions associated with La Niña events may prompt managers to consider re-scheduling planting of drought vulnerable seedlings, reinforce existing control efforts of southern pine beetle, and delay the harvest of pine straw to retain soil moisture. La Niña also brings the potential for a very active wildfire season. Average acreage burned during La Niña years is often more than doubled as seen in 1998 and 2001. EDIS publication: Using Seasonal Climate Variability Forecasts to Plan Forest Plantation Establishment
Pasture	<p>Success of winter pastures depends on rainfall. This is especially true when overseeding. In central and south peninsular Florida overseeding of cool-season annuals into a established grass sod often fails due to insufficient soil moisture and this is generally not recommended unless irrigation is available since dry conditions can be exacerbated during La Niña seasons.</p> <p>If La Nina conditions persist in the spring, producers should take an inventory of their current stocks of hay or other conserved forage and develop a plan for stretching this stored forage. This may mean that producers will need to hold back some amount of the hay on hand in case the expected drought conditions become severe and sustained. Dry weather in the spring will cause annual ryegrass growth to become more</p>

	<p>mature and less digestible much earlier than when spring rainfall was abundant. Further, total yields from ryegrass may be 30-40% less than normal under these conditions, as this important spring pasture species tends to quit growing in early to mid-April when subjected to drought stress. Thus, a forage plan should include a provision for taking early hay cutting from the annual ryegrass (if appropriate) and/or allowing the animals to access supplemental feed.</p> <p>Related articles: Winter annuals make sense (UGA CAES publication), Climate-Based Management Options for North Central Florida Beef Cattle Producers (EDIS).</p>
Crop/Commodity	Potential La Niña impacts
Row Crops	<p>La Niña impacts are less evident on annual summer crops since its strongest signal occurs during fall, winter and spring. However, La Niña will affect corn planting date decisions in Alabama, Florida and Georgia. Typical planting date window is in March in South and Central Georgia, and early to late April in North Georgia. Growers can check the 'Yield Risk Tool' on AgroClimate and examine the impact of ENSO phases and different planting date scenarios on corn yield. La Nina weather may result in dry conditions for non irrigated fields across much of Florida and the deep south during planting time. Growers may want to consider killing cover crops early (5-6 weeks prior to planting instead of 3-4) to conserve moisture for crops that are planted relatively shallow (cotton, soybean) while peanuts can be planted deeper. If corn is not irrigated consider waiting to plant until near May so that summer rains may be occurring in the area when it is in the pollination period. Early planted corn will need rain in mid May for pollination or will require irrigation water.</p> <p>Warm and dry conditions in a La Niña spring may provide the perfect environment fall armyworm infestation in corn and increased thrips population in vegetables. Yellow mustard and wild pansy are ideal hosts for thrips, and a warm winter may provide ideal growing conditions for these and many other host plants.</p>
Fruits – temperate (peach, nectarine, apple, pear, blueberry, raspberry, strawberry)	<p>Seasonal climate variability impacts deciduous fruit production mainly through changes in the satisfaction of dormancy that occurs by the accumulation of chilling hours (temperature at or below 45°F) and changes in the accumulation of heat units that promote flowering and fruit development. Also affected can be the extent of the threat from freeze damage during flower and fruit development, and the timing and severity of diseases and pests. La Niña conditions developed later this year and may not result in significant decrease in overall chill accumulation.</p> <p>The dry weather during La Niña years is usually not conducive to fungal diseases such as Anthracnose and Botrytis fruit rots. In the case of strawberry, these are the two major diseases of concern. Disease inoculum for Botrytis and anthracnose has been low this season since no major disease events have occurred up to now. With the return of La Nina and expected drier conditions, regular applications of fungicides may not</p>

	<p>be needed as often to suppress these diseases especially when moderately or highly resistant cultivars such as Strawberry Festival are grown. So it may be a good opportunity for growers to extend spray intervals and reduce fungicide costs without a great risk of compromising their profits.</p> <p>Winter annual broadleaf weeds may thrive under warm and dry conditions, and these weeds act as host plants for catfacing insects (sucking bugs) of peaches. High populations of cat-facing insects have been documented in peach orchards where winter annual broadleaf weeds are allowed to grow.</p>
International Outlook	<p>La Niña events causes wetter than normal conditions to develop over northern Australia, Indonesia, Malaysia, southeastern Africa and northern Brazil during the northern winter. Above normal rainfall is expected in a region comprising of the mainland Southeast Asia, the Philippines, Papua New Guinea, and adjoining Polynesian islands. Drier than normal conditions are normally observed along the west coast of tropical South America, southern Brazil, Paraguay, Uruguay, and central Argentina during la Niña events. The ongoing drought in Argentina is expected to cause a sharp decline in soybean, corn, wheat, and peanut production.</p>

<http://www.agroclimate.org>
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