



# EXTENSION CONNECTION

By Chris Oswalt

## Winter weather outlook

**W**inter has finally arrived with cooler temperatures and shorter days. Now is an excellent time to examine the winter weather forecast and El Niño-Southern Oscillation (ENSO) phase to provide insight into how Florida citrus could be affected.

The October forecast from the National Oceanic and Atmospheric Administration has winter ENSO conditions evolving into a La Niña phase. In general terms, this means there will be warmer and dryer weather conditions this winter. This is based on the influence of La Niña creating clearer skies and resulting in fewer clouds and consequently less rainfall. Before anybody gets excited, this does not necessarily mean fewer bouts with freezing temperatures. In fact, some information was published in

2001 that looked at the various phases of ENSO and the occurrence or lack of severe freezes in Florida.

### 1980s FREEZES

I know that I am dating myself, but many Florida citrus growers still remember and or experienced the freezes of the 1980s. Three major freezes in that decade significantly shaped the current Florida citrus industry. It was Christmas of 1983 when temperatures in the Central Florida citrus production area dropped into the lower 20s after just a few days of being in the 80s. This rapid and significant change in temperatures allowed for very little cold acclimation of citrus trees and resulted in substantial freeze damage.

I remember being in Gainesville as a student that year, having just completed an introductory class to the citrus industry. Part of

this class required going to the teaching block on campus to describe and analyze the different varieties of citrus planted. Students came back after Christmas, and the trees were frozen to the ground. Then, as the industry tried to recover from that event, the Super Bowl 1985 freeze hit 13 months later. It made sure the Florida citrus industry would not soon forget what cold weather was like.

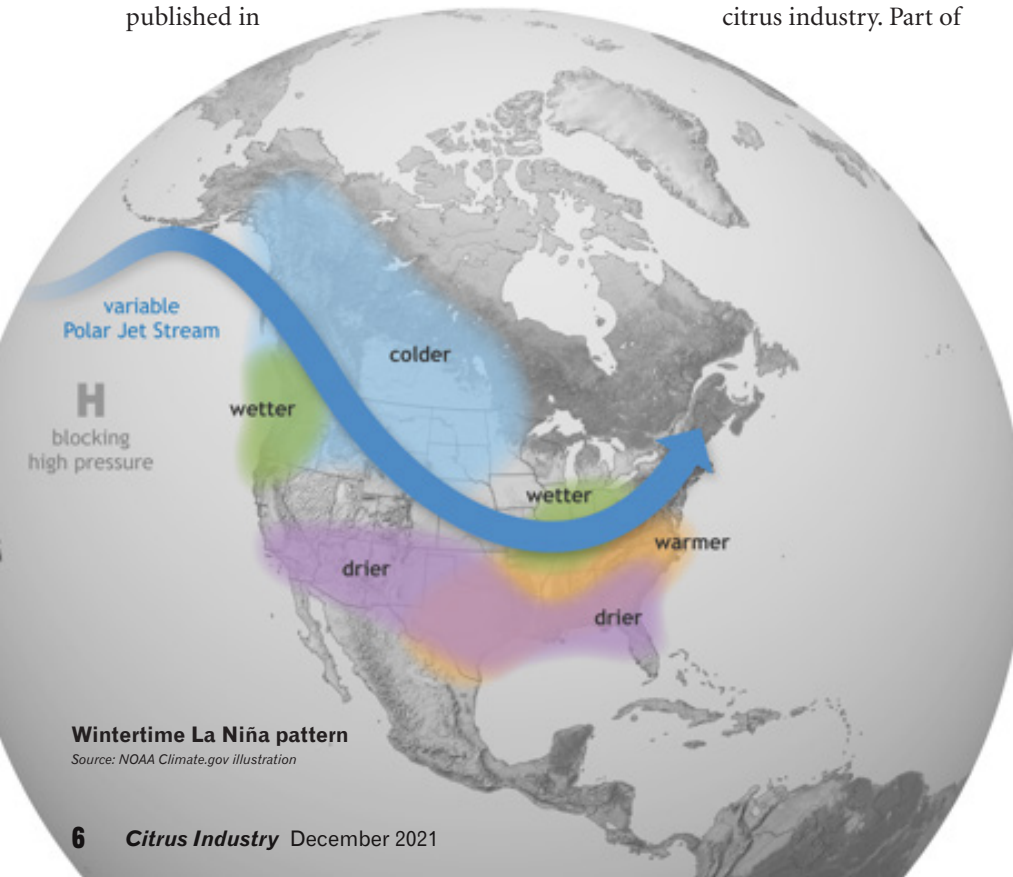
These two occurrences, as have freezes in the past, helped to reshape the geographical distribution of the Florida citrus industry. Many new plantings were made “down south” to escape the threat of freezing temperatures. Then, around Christmas of 1989, the third and last of the freezes of the 80s occurred. This freeze did some damage, but the areas hardest hit no longer were planted in citrus trees, due in large part to the movement of the industry to the southern regions of Florida.

### PAST STUDY

So why bring up disturbing memories of freezes? Well, one common thread through all these events was the phase of the ENSO. In all three of those years and in several other freeze years (between 1980 and 2000), these significant freezing temperatures occurred during neutral or near-neutral ENSO years. The analysis was done in 2001 that looked back at the ENSO phase and the occurrence of severe freezes in Florida. The period examined was from 1980 to 2000.

The study results indicated that there was a 60% chance of having near-neutral ENSO conditions in any given winter. Of these near-neutral winters, the odds of having a significant freeze were 50%. Although this finding was based on data from 20 years ago, I believe it provides growers a sense of what to expect as far as winter weather and freezes as related to ENSO in any given year. If the ENSO forecast calls for El Niño or La Niña conditions during the winter, the likelihood for a severe freeze is less than in a near-neutral ENSO winter. It’s worth considering as you develop and carry out your citrus cold-protection plan. 🍊

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Wintertime La Niña pattern

Source: NOAA Climate.gov illustration