UF UNIVERSITY of FLORIDA | IFAS EXTENSION

Citrus Notes

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November 2009

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Dear Growers,

Our November Citrus Roundtable in Hillsborough County is scheduled for this Wednesday. We will be meeting at the Gulf Coast Research and Education Center in Balm. Don't forget to register for the Winter Weather Watch that begins on November 15, 2009. The "Low Volume Application Technology for Citrus Pests" program presentations are now available online at the UF/IFAS Citrus Extension Agents website. If you have questions on renewing your Restricted Use Pesticide license you can read renewal information in the CEU article. Last month we provided the winter outlook provided by the National Weather Service; this month we included some specific information on what we could potentially expect from this winter and a discussion of cold fronts in Florida.

Enjoy the issue,

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November Citrus Roundtable at the Gulf Coast Research and Education Center in Balm

We will be back in Hillsborough County on Wednesday, November 4, 2009, for our Hillsborough County Citrus Roundtable. This month we will be holding our meeting at the Gulf Coast Research and Education Center located at 14625 CR 572 in Balm. The meeting will begin at 10:00 a.m. and last to about 11:00 a.m. Dr. Ron Brlansky, Citrus Research Pathologist from the Citrus Research and Education Center in Lake Alfred, will bring us up to date on the latest citrus greening research information from his program and other research efforts in order to thwart citrus greening. There will be 1 CEU available for your Restricted Use Pesticide (RUP) license in the following categories: private applicator, agricultural tree crop, and demonstration and research. The Research Center is located on the south side of CR 672 between US highway 301 and CR 39.

Hope to see you there on November 4, 2009.

2009-10 Winter Weather Watch

The 2009-2010 edition of the Winter Weather watch will begin on November 15, 2009. If you are interesting in subscribing I have included a copy of the registration form along with an information flyer on the program. This program provides agricultural weather and freeze information to growers from November 15, 2009 to March 15, 2010.

Low Volume Application Technology for Citrus Pests

If you missed the UF/IFAS Citrus Agents meeting series this fall on low volume technology or you wanted copies of the presentations, they are now available on the UF/IFAS Citrus Extension Agents Website at: http://citrusagents.ifas.ufl.edu . At this site you can also get copies of the latest issues of all of Florida's Citrus Extension Agent newsletters. Local county event information can be accessed from this website by clicking on the events link on the far left side of the home page.

Pesticide Continuing Education Units (CEU's)

Recertification Requirements
Licensed applicators must become recertified to renew their pesticide applicator licenses. To become recertified, individuals must either retake the certification exams or earn the required number of Continuing Education Units (CEUs).

In rare situations, reexamination may be required for recertification, with no option of using CEUs. The Florida Department of Agriculture and Consumer Services will notify all applicators affected by this requirement.

Earning CEUs
CEUs are earned by attending approved CEU classes or completing approved online or correspondence courses which award CEUs.

If an individual has more than one license, the same CEUs can be used to renew both li-

censes, provided the CEUs were earned during the license period for each license (from the day the license was issued until it expires) or within one year after expiration.

CEU Requirements
Licensees who renew their licenses with CEUs must earn 4 Core CEUs plus the number of category CEUs as shown in the table below. Only 4 Core CEUs are required per license - not 4 Core CEUs per category. All category CEUs must be approved for the specific category.

No substitutions of core/category CEUs are allowed.

CEU Requirements	
Core (required of all licensees)	4
Aerial Application - Agricultural	16
Agricultural Animal Pest Control	4
Agricultural Row Crop Pest Control	8
Agricultural Tree Crop Pest Control	8
Antifouling Paint	4
Aquatic Pest Control	16
Forest Pest Control	8
Chlorine Gas Infusion	4
Demonstration and Research	4
Natural Areas Weed Management	16
Ornamental and Turf Pest Control	12
Private Applicator Agricultural Pest Control	4
Raw Agricultural Commodity Fumigation	4
Regulatory Inspection and Sampling	4
Regulatory Pest Control	12
Right-of-Way Pest Control	8
Seed Treatment	4
Sewer Root Control	4
Soil and Greenhouse Fumigation	4
Wood Treatment	4

Using a Combination of CEUs and Exams to Renew
Licensees have the option of taking the certification exams again if they do not have enough CEUs for renewal. If a licensee has earned the required category CEUs but not enough core CEUs, the core exam may be taken instead of using core CEUs for renewal. Licensees may also choose to take the category exam(s) and earn 4 core CEUs.

Licensees who have more than one category may choose to renew some categories with CEUs and other categories by exam. The licensee must also earn 4 core CEUs or retake the core exam, in addition to either earning the number of category CEUs shown in the table above or retaking the category exam for each category renewed.

Example 1: A private applicator who has 4 private applicator CEUs and only 2 core

CEUs may either take the core exam or earn 2 additional core CEUs to renew.

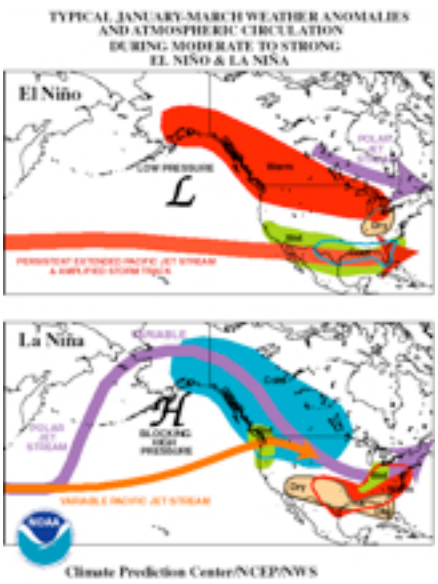
Example 2: A commercial applicator who has the agricultural row crop and agricultural tree crop categories will need to earn 4 core CEUs, 8 agricultural row crop CEUs, plus 8 agricultural tree crop CEUs or take the three corresponding exams.

CEU Classes
Training programs that provide CEU credits are offered by the County Agricultural Extension Offices as well as many other education providers. Most of the programs are offered within Florida; however, many out-of-state programs are also approved. To locate training programs offering CEUs, licensees may use the CEU Class Search. After locating classes of interest, licensees may want to call the contact person listed for more information or to register for a class. Or, they may want to contact local County Extension Offices in their area to find out training schedules. Licensees may also call the FDACS Pesticide Certification Section at (850) 488-3314 for information about upcoming CEU classes.

2009-10 Winter Weather Pattern

Last month we discussed the NOAA (National Oceanic and Atmospheric Administration) climate outlook for this winter. This was based on the formation of at least a moderate El Nino weather pattern in the equatorial Pacific Ocean.

During El Nino, low pressure develops in the northern Pacific Ocean resulting in the development of a more zonal flow across the continental United States (fig. 1). This zonal flow pattern during the winter allows for the development of more maritime cold fronts (cold with higher dew points) that form predominately over water before heading to Florida. This is in comparison to the Arctic or Siberian



express cold fronts, with lower dew points and colder air traveling over snow and ice on the way to Florida.

Figure 1. Winter flow during El Nino and La Nina.

Cold Air Masses (J. Georg**,** Retired Meteorologist Federal-State Frost Warning Service, Lakeland, Fl)

Florida freezes originally start from extensive masses of air located in the polar-arctic regions of the Northern Hemisphere (fig. 2). The large masses of air become more characteristic of the underlying surfaces with extended periods of time and often will be "dome" shaped. Air masses over land or water, free of snow/ice, will have warmer temperatures and higher water content (dew point points) than if the same air mass was located over snow/ice covered areas. One definition of an air mass is a widespread body of air that is largely uniform horizontally but will have different temperature, dew point points, and other characteristics at the bottom than the top. Horizontally, these large differences do not exist, although the mass of air may cover hundreds of miles. The Continental Polar and the Continental Arctic air masses are both land-origin and the sources of severe freezes in Florida. The Polar air mass develops over snow/ice-free land and the colder Continental

Arctic mass develops over snow/ice covered land. Occasionally, these two air masses will develop over water. In this instance, they are less likely to be a source of severe freezes in Florida. The biggest threat to Florida is the Continental Arctic air mass, which is moving rapidly southward with high winds over predominately snow/ice covered areas on its way to Florida.

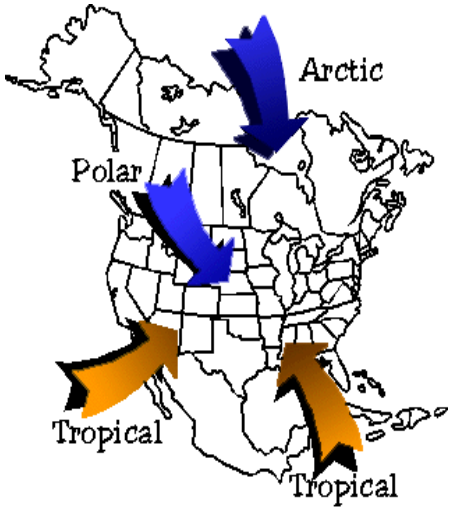


Figure 2. Origin of air masses that affect United States climate.

Transport Mechanism:
The general circulation pattern of the atmosphere at 20,000 to 30,000 feet over the United States is from west to east. Meteorologists call this zonal flow. There are so-called steering currents that play a very important role in movement of high and low-pressure systems over the country. The more vigorous these air currents the more important their role. In a strict sense, zonal flow is the exemption rather than the rule. These wind currents are more than characterized by undulations that range from scarcely perceptible to waves of great amplitude as shown on weather maps[1]. Waves of great amplitude are called long waves or planetary waves (fig. 3) and they are normally in a state of change. These waves change in number around the hemisphere, in wavelength and in amplitude, as they move. Movement is normally from west to east. Any movement or change that positions a long wave trough between the Mississippi Valley and the east coast has the potential for "opening the door" for any cold air mass upstream.

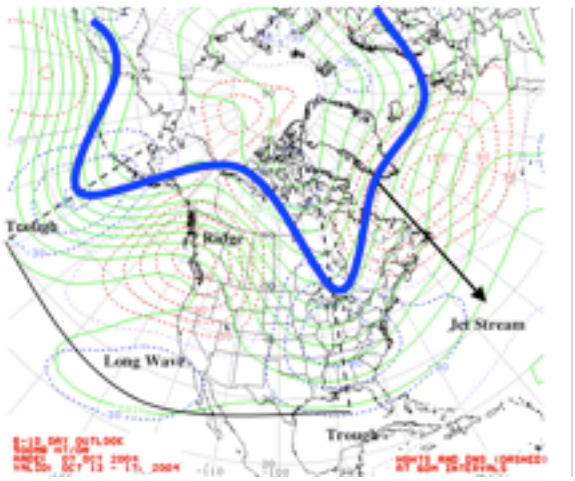


Figure 3. 500 mb weather map, long waves are measured from one trough to another, and the dashed lines indicate troughs with a high pressure ridge in the center.

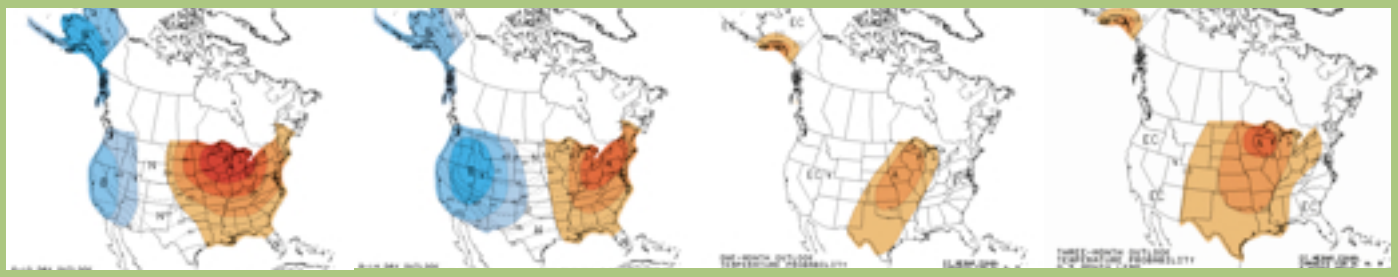
The severity of the cold air mass as it enters Florida depends primarily on three things:

1. The temperature of the old air when it moved out of the source region.
2. The nature of the underlying surface over which the air mass traveled on its way to Florida (i.e., the extent of snow/ice).
3. The time it took to reach Florida.

An air mass leaving its source region with a particular temperature and water vapor regime may be transported to Florida with very little change or it may be changed drastically depending on atmospheric and land characteristics.

[1] These waves form ridges of high pressure (clockwise circulation) and troughs of low pressure (counter-clockwise circulation) and are analogous to the contour lines defining mountains and valleys, respectively, on a topographic map.

Winter Weather Watch



Get the Subscription Form

October 2, 2009

UF/IFAS Polk County Cooperative Extension Service

The 2009-10 version of the Winter Weather Watch will begin on Sunday, November 1, 2009 with a free trial offer for growers interested in winter weather forecast information. Call 863-904-0268 for the forecasts.

The 2009-10 edition of the Polk County Winter Weather Watch program will begin on November 15, 2009. The program provides growers with winter weather forecast information specifically geared toward agricultural interests in West Central and South Florida. The program provides subscribers with an unlisted phone number for (24 hour/7 days a week) access to daily weather forecasts. The zone forecasts are from the National Weather Service (NWS) and are listed on the automated phone menu, so you can select the products you are interested in. Forecasts include the zone forecasts, 6-10 and 8-14 day outlook forecasts. In addition to the forecasts we have special weather narratives provided as needed in the event of freezing temperatures and a weekly outlook. When freezing temperatures are predicted in our area additional updates will include the afternoon zone forecast and the modified sunset brunt minimum temperature equation. If this is not enough we will also provide the weekly citrus leaf freezing temperatures and the 2009-10 Winter Weather Watch manual.

Subscriptions for the Winter Weather Watch program are only $100.00 for the entire 4 month period (Nov 15 to Mar 15). The cost is about the same as one tank of gas for your pickup truck. You can subscribe to the Winter Weather Watch by linking to the "get the subscription form" above.

Free Trial Offer for Interested Growers

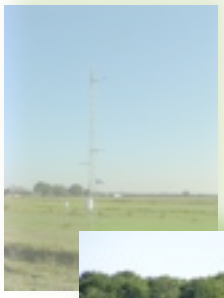
This year we will be offering a free trail offer for growers interested in trying-out the Winter Weather Watch. From November 1, to November 14, 2008. Growers will be able to call in and get the scheduled weather forecasts. After the trial period growers must subscribe for continued uninterrupted access.

FORECAST SCHEDULE

Product	Above 32 ^{0} F	32^0-29^{0}F	Below 28^0 F
Zone	*Daily 8:30 a.m.*	*Daily 8:30 a.m.*	*Daily 8:30 a.m.*
6-10 & 8-14 Day Outlooks	*Mon/Wed/Fri 8:30 a.m.*	*Mon/Wed/Fri 8:30 a.m.*	*Mon/Wed/Fri 8:30 a.m.*
Weekly Outlook	*Friday 5:00 p.m.*	*Friday 5:00 p.m.*	*Friday 5:00 p.m.*
Leaf Freezing Temperatures	*Friday 5:00 p.m.*	*Friday 5:00 p.m.*	*Friday 5:00 p.m.*
Special Weather Narratives	*As Needed*	*Daily 4:00 p.m.*	*Daily 4:00 p.m.*
Afternoon Zone Forecasts	*None*	*Daily 5:30 p.m.*	*Daily 5:30 p.m.*
Sunset/Brunt Forecast	*As Needed*	*As Needed*	*Daily 7:00 p.m.*

2009 – 2010 WINTER WEATHER WATCH PROGRAM

NOVEMBER 15, 2009 TO MARCH 15, 2010
REGISTRATION FEE: $100.00



It's once again time to register for the upcoming 2009 - 2010 Winter Weather Watch Program. Upon receiving your $100.00 registration payment, you will be sent an unlisted telephone number with which you can retrieve the latest **Ag Forecasts**, 24 hours a day. **Please do not give this number to others**. The *Winter Weather Watch Program* is funded by the registration fees to pay for telephone equipment rentals, long distance calls, repairs and meteorologist.

2009 – 2010 Winter Weather Watch Program

NAME:_____ Phone Number:_____

COMPANY:_____

MAILING ADDRESS:_____

CITY:_____ZIP CODE:_____

REGISTRATION FEE $100.00

PLEASE RETURN THIS REGISTRATION FORM AND YOUR CHECK PAYABLE TO:

POLK COUNTY CITRUS ADVISORY COMMITTEE
PO BOX 9005, DRAWER HS03
BARTOW, FL 33831-9005