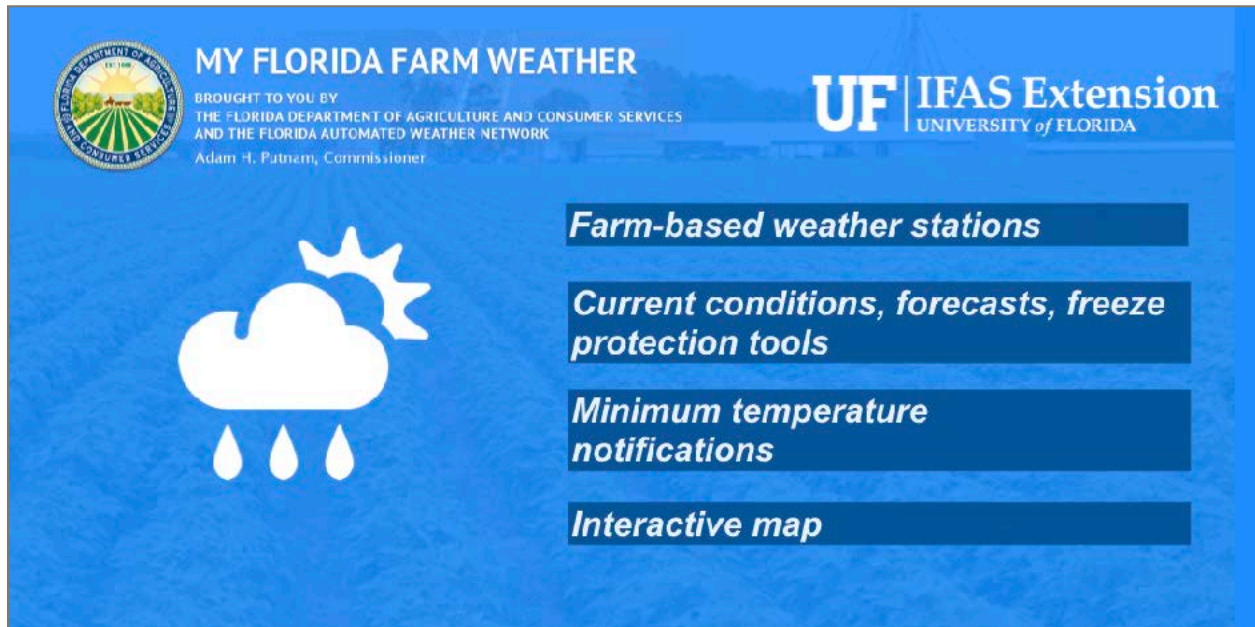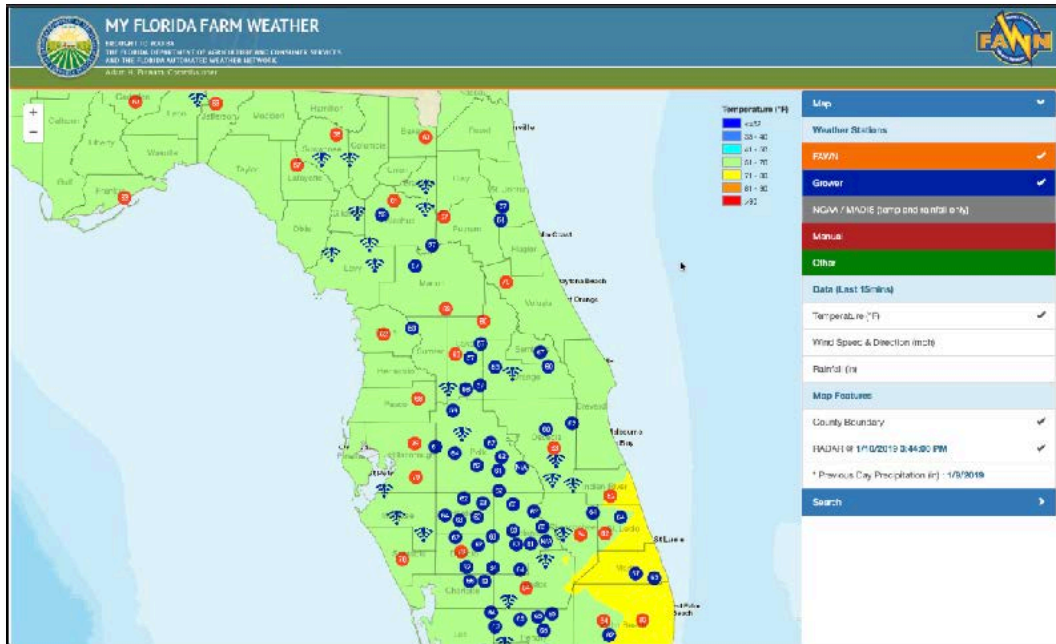# My Florida Farm Weather Website Tutorial

Brought to you by the Florida Automated Weather Network (FAWN) and the Florida Department of Agriculture and Consumer Services.

Welcome to the My Florida Farm Weather (MFFW) web page. My Florida Farm Weather is a Florida Department of Agriculture and Consumer Services funded program that helps Florida growers establish on-farm weather stations. Via this web page, users can access real-time weather data from nearly 200 farm-based weather stations. Users can also view graphs, forecasts, download archived data, and view station-specific agricultural decision making tools that use real-time data from the weather stations. Following is a brief tutorial for using this web page.

All of the weather stations are displayed on an interactive GIS-based map. The colored background of the map shows the range of temperatures statewide, with an associated legend in the upper right corner.   Other map features include the county boundaries and a current RADAR image.   The dots represent weather station locations, their color the type of station, and the number inside each dot is the current temperature in degrees F at that station. Zooming

the map in and out will change the density of stations shown. A WiFi loss of signal icon indicates that a station is offline, and an N/A signifies missing data.

On the right side of the map, there is a menu with three sections.

The Weather Stations section lists the sources of data that can be viewed on the map. The blue and orange stations represent the MFFW and FAWN stations, respectively, and are shown on the map by default once you open the web page. The NOAA/MADIS stations are a collection of stations that are part of the NOAA MADIS, a network of NOAA and non-NOAA providers.   These stations only show current temperature and latest hourly rainfall. Manual displays for a limited time temperature values that have been submitted by a grower via the iPhone or Android smartphone app. Finally, Other shows weather stations that are not on farms or at agricultural centers. To display the values from any of these sources, select those titles.

The Data section lists the measurements the user can view on the map in real-time.   The default is temperature, but wind speed and direction, and rainfall are also available.
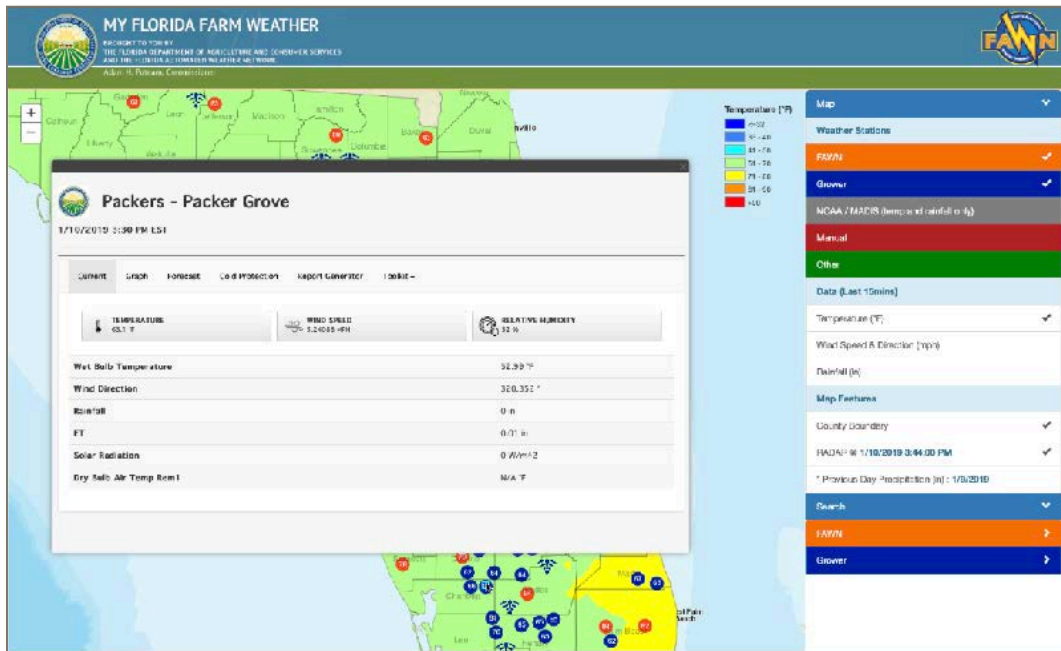
The Map Features allows the user to overlay onto the map the county boundaries, current RADAR, and previous day precipitation. Finally, you can search for a specific MFFW or FAWN station by clicking on the Search section located here

STATION WINDOW

When you select a station either on the map or from the search section, the station window appears. This window contains all the data and data products related to that individual weather station. At the top is the name of the station and the logo that indicates that the station is either a MFFW or FAWN station. Also, the date and time of the latest reading are shown. Below the station and date and time is a series of tabs. Each tab contains a different data product or tool for the weather station.
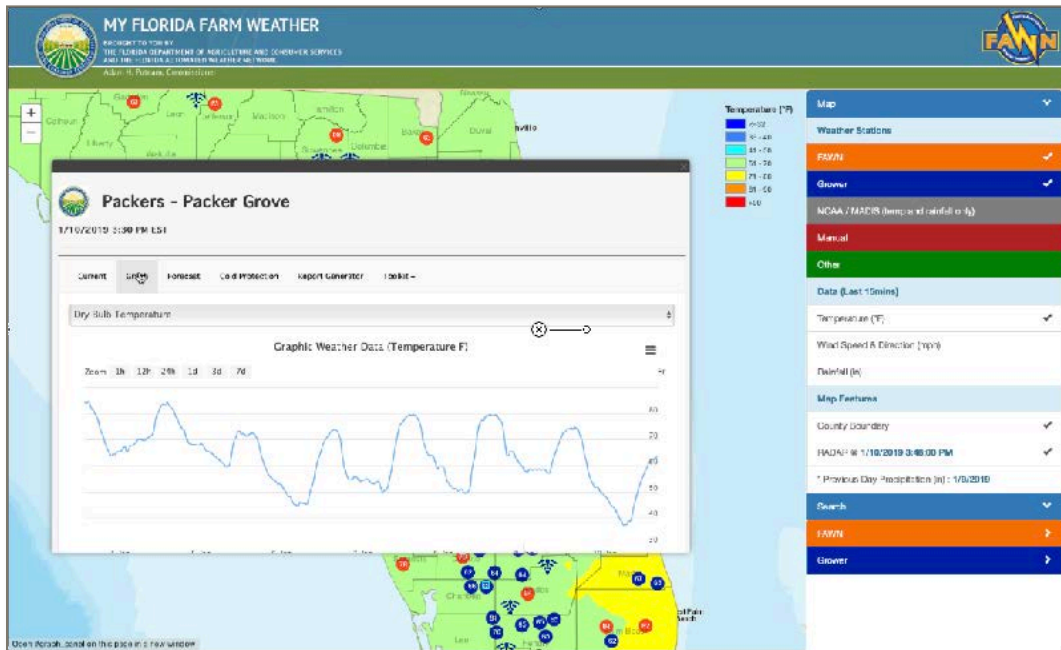
CURRENT TAB

When this window initially opens, the **Current** tab is automatically shown. This tab shows the current measurements from the weather station. Shown at the top are Temp, Wind speed, and RH. Then, below are wet bulb temperature, wind direction, rainfall amount, and values from any remote sensors that might be installed. Remote sensors measure parameters some distance away from the main weather station. Some stations are equipped with solar radiation sensors. This allows calculation of ET, which can be used for irrigation scheduling.
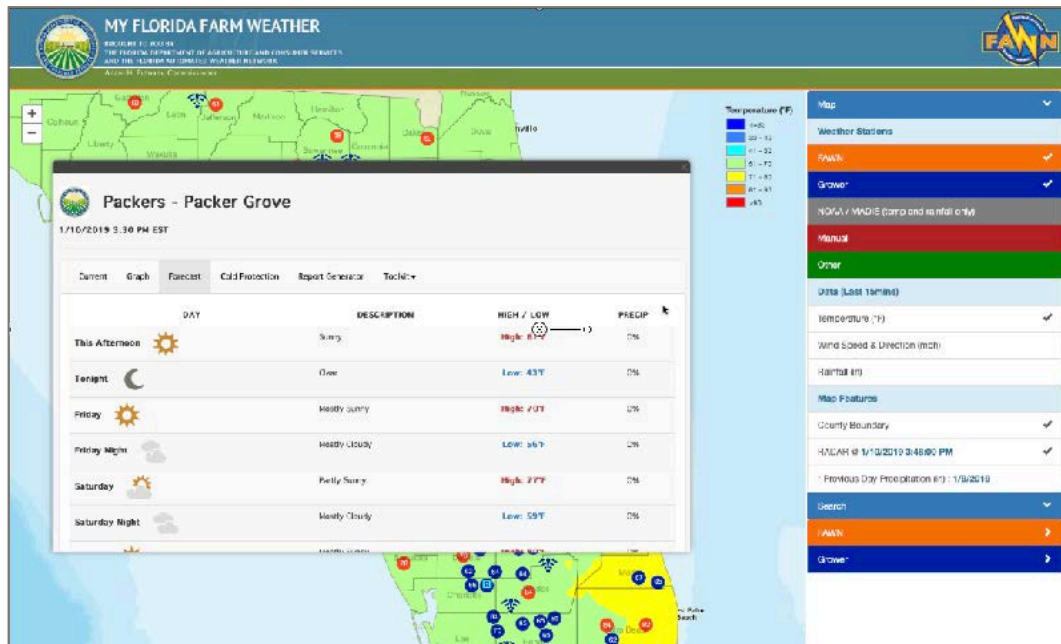

GRAPH TAB

The next tab over is the Graph tab. This tab shows historical graphs of several parameters, all of which can be selected from the drop down menu. Temperature, rainfall, and wind speed are available for all stations. Data from any additional and/or remote sensors will be available as well. Once a parameter has been selected, the date range can be adjusted here or this line can be adjusted here by selecting the

time frame. The date is adjustable from the most recent hour up to the previous 7 days of measurements. When displaying rainfall, the cumulative amount for the selected date range will appear in this black box. Here, the graphs can be exported to either PDF or image formats.

FORECAST TAB

The Forecast Tab shows a National Weather Service 7 day forecast at the station location. Each line of the forecast represents about 12 hours of time. Included are the forecast day, a description of the forecast, the forecasted high and low temperatures, then the probability of precipitation, all for that day. You can scroll down to see the entire 7 days.
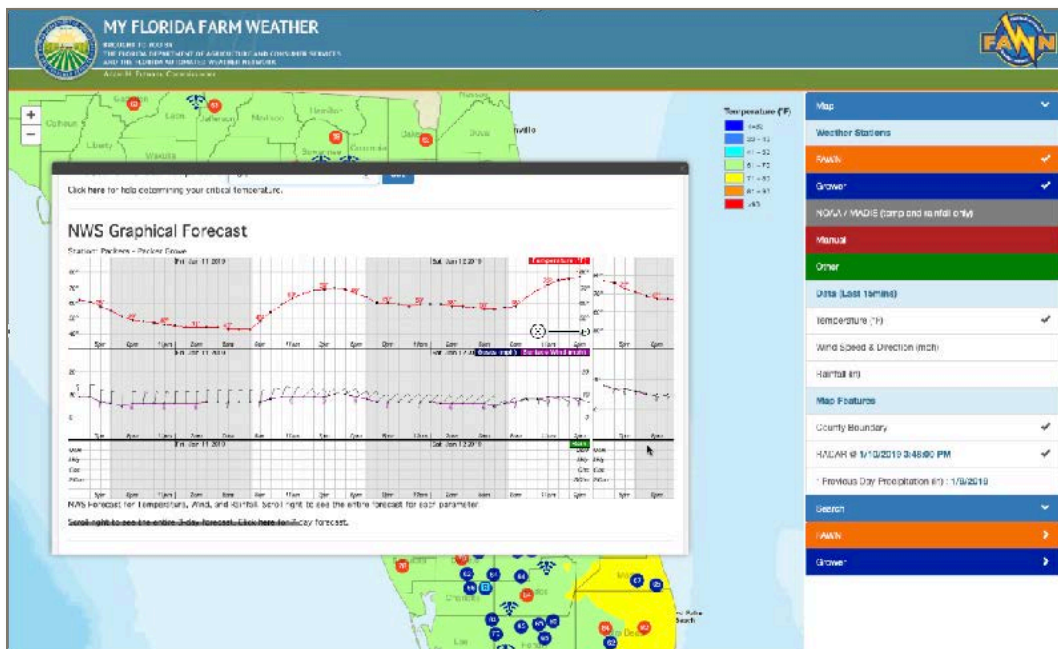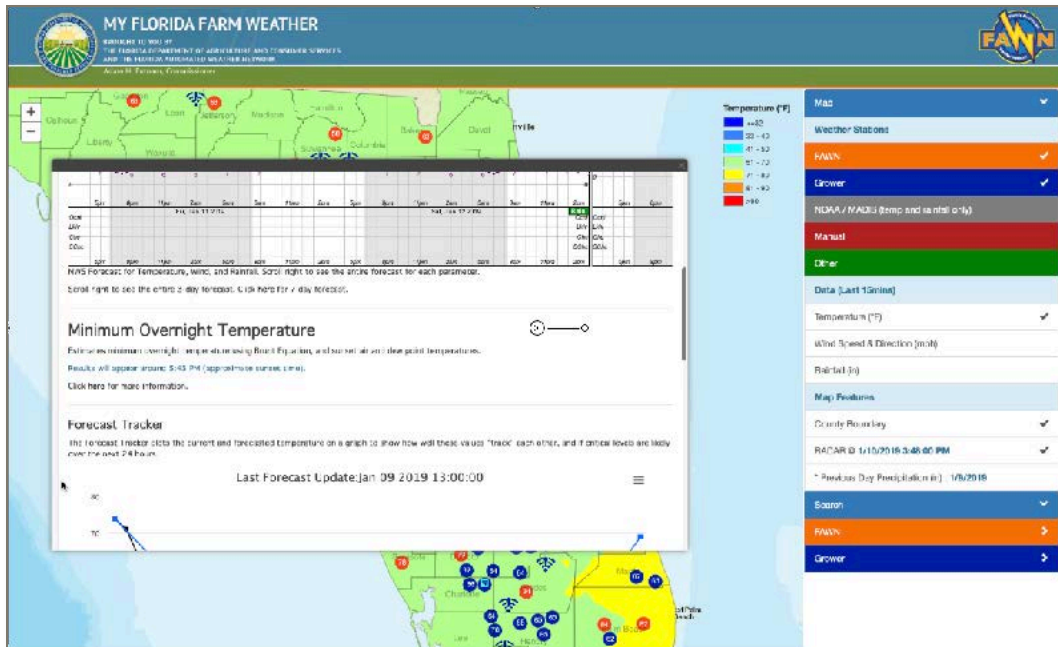
The cold protection tab shows a suite of decision-making tools for using water for freeze protection of crops. It uses data from the grower's weather station and the critical minimum temperature of the crop to make recommendations on when irrigation should be used for frost or freeze protection. IFAS estimates that using these tools can save potentially 2 hours of water per freeze event. Statewide, this can translate into millions of dollars and billions of gallons of water. This toolkit guides you from looking at the big picture forecast down to analyzing specific cold events.

The first thing to do when using this feature is to set your crop's critical minimum temperature - the temperature at which cold air will cause damage to the plant. If you are not sure how to determine your crop critical minimum temperature, you can click here for some guidance.
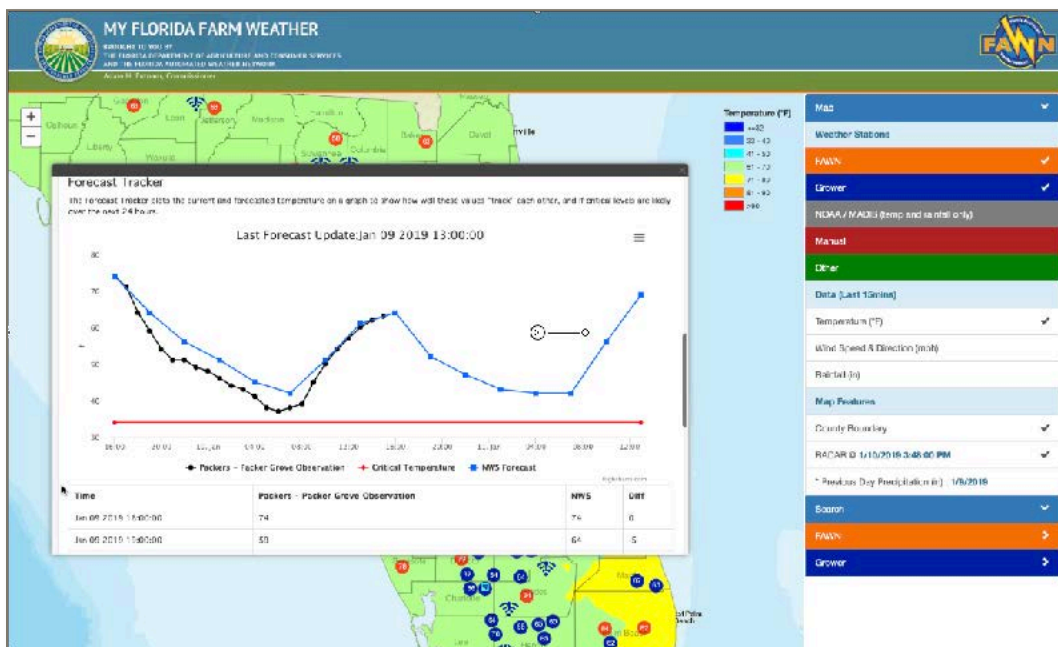
The first tool is the National Weather Service graphical forecast. This provides the big picture over the next few days. Shown in the graph are temperature, wind speed and direction, and rainfall, all over the next 4 days. You can scroll right to see more of the graph. The helpful feature of displaying the forecast in graphical format is that it gives you some idea of when specific forecasted values are expected to occur.

If you determine, based on the forecast, that you need to monitor a specific night more closely, you can then check the next tool on that night, which is the minimum overnight temperature tool. This tool uses the air and dew point temperatures to estimate the overnight minimum temp at your weather station. Since it requires the values at sunset, this area is blank until those values become available, then they will be displayed in a table. Also, you can click here for a more detailed explanation of how the tool works.
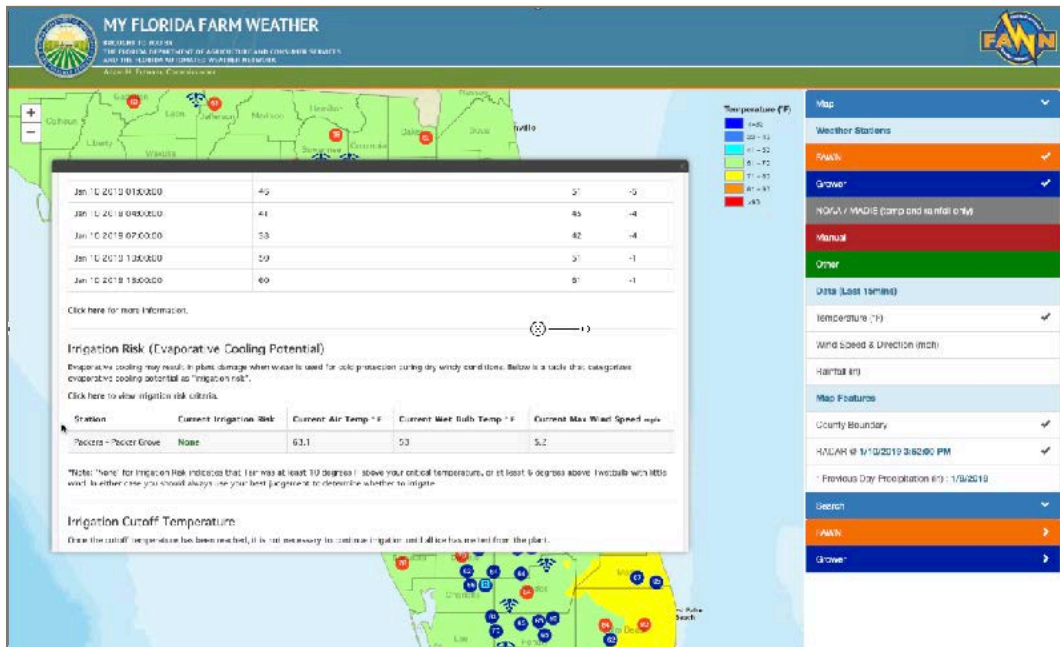
As the night progresses, and you are still concerned that you might need to use freeze protection measures, you can track the forecast with the forecast tracker. This tool plots on a graph the current temperature at your station (shown in black), and the forecasted temperature (shown in blue) and allows you to easily and simply evaluate the accuracy of the forecast as it applies to your location. Also, the graph shows your critical minimum temperature in red. The middle of the graph represents the current time. This tool is especially useful when the temperatures are forecasted to be at or near your critical temperature. For example, if the current temperature is trending below the forecasted temperature, that may be an indication that it is going to colder than expected. Likewise, if the current temperature is trending above the forecast, then that might be an indication that it is generally going to be warmer than expected. If you place your mouse over any of the dots on the graph, you can view the actual values.
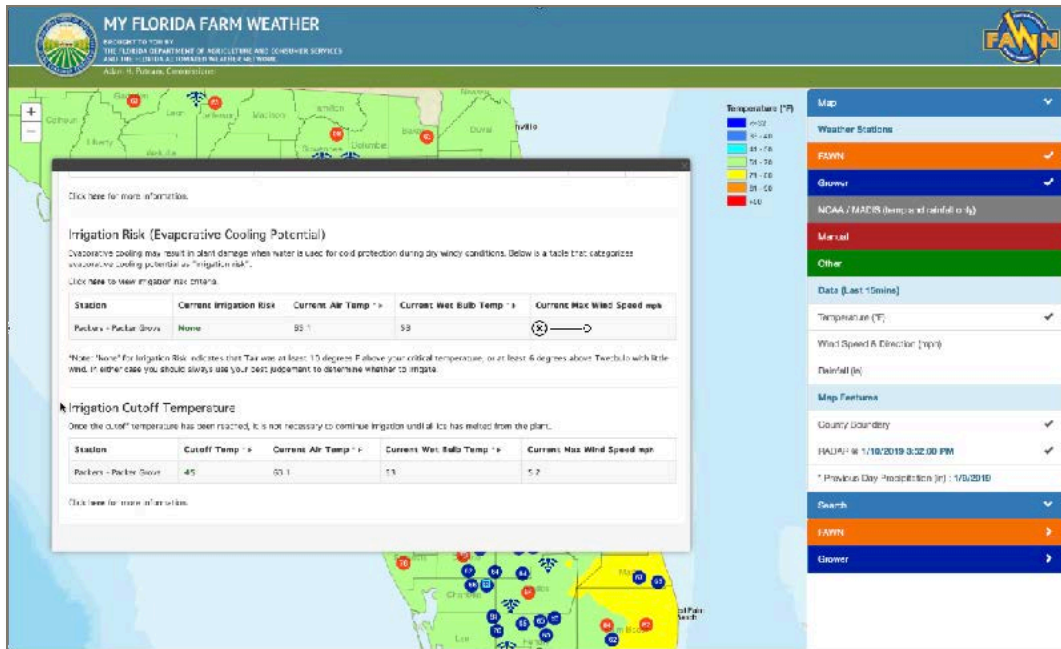
The table below the graph shows the actual values of the station and forecasted temperatures, and the difference between the two. Also, you can click here for more details on how the tool works.

The next thing to check is the irrigation risk, aka evaporative cooling potential. This tool categorizes the likelihood that evaporative cooling will take place if you run your irrigation system and is based on the difference between the air and wet bulb temperatures, and wind speed. If your plants are wet, and the air is dry and windy, then further cooling is possible and if the wet bulb temperature is sufficiently low, then that cooling can potentially damage the plants even more than if you did not run your system at all. You can click here for a table that shows the evaluation criteria.
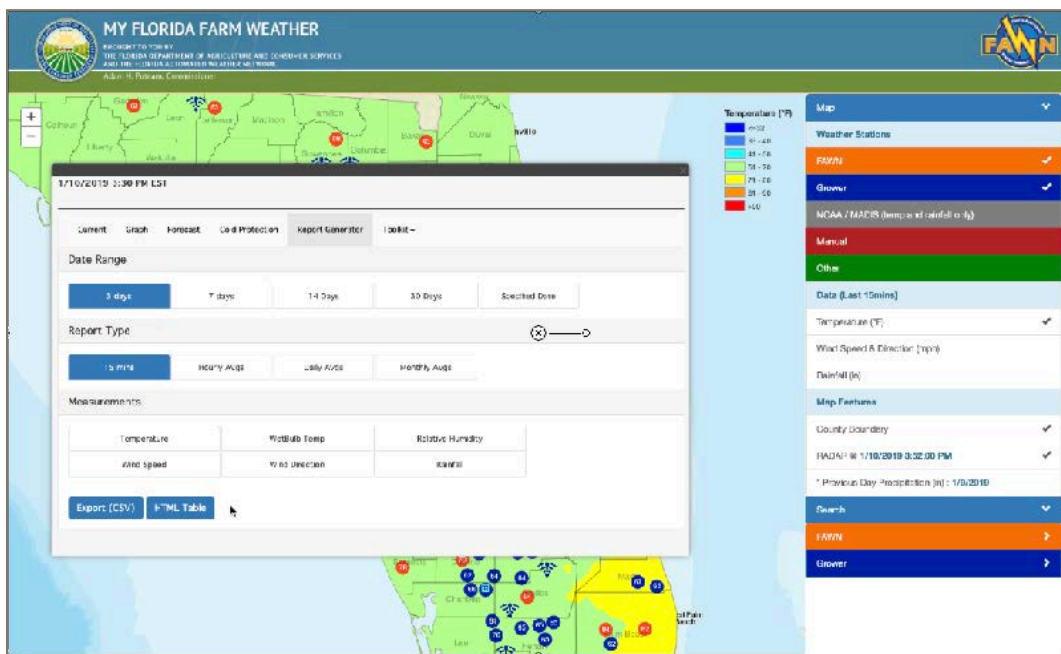

The final step in the cold protection process is knowing when to safely shut down a running irrigation system.   The irrigation cutoff temperature uses the wet bulb temperature to determine a safe temperature at which a running irrigation system can be shut down. At that point, no further irrigation is necessary until all the ice melts off of the plant surfaces. As with some of the other tools, you can click here for more details on the how this tool works.

REPORT GENERATOR

The next tab is the report generator. The report generator provides access to archived data, which can be viewed on the screen or downloaded in spreadsheet format. To begin, select either a preset date range, or specify a date range here. Then, select the report type, which can range from all measurements to hourly, daily, or monthly averages. Then select the measurement of interest then select either Export to download the file or HTML Table to view the data on the screen. A downloaded file can then be opened in any spreadsheet application.
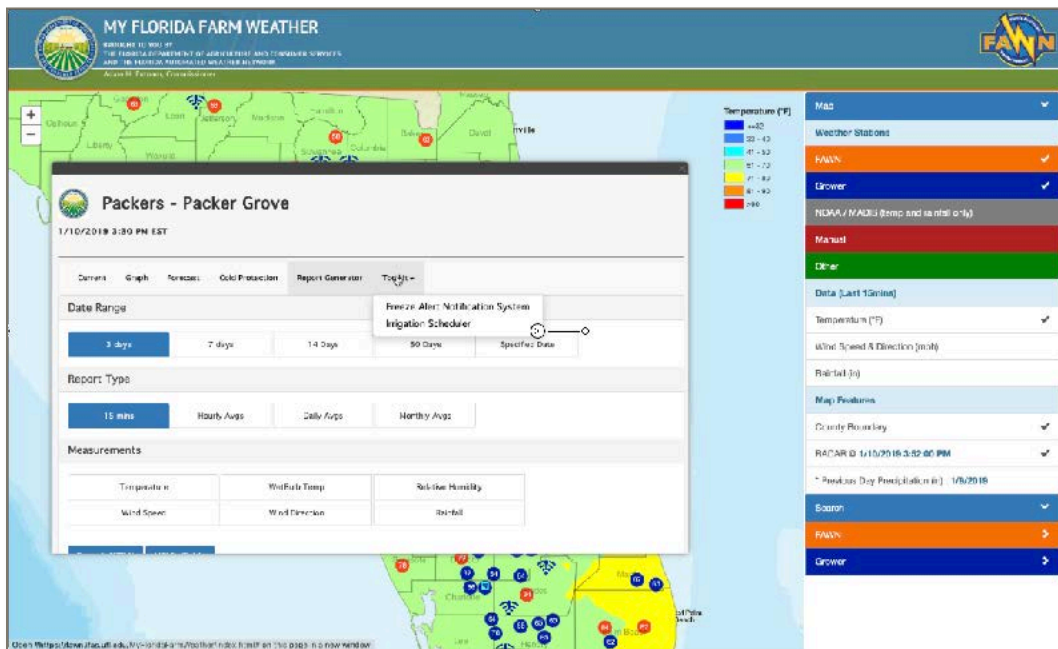
The last tab is the toolkit tab, which provides access to the Freeze Alert Notification System and the Irrigation Scheduler.

The Freeze Alert Notification System is a text message based alert system that will send you text messages based on temperature conditions at either a FAWN or My Florida Farm Weather station you choose. On cold nights, the system will send 4 separate messages when the alert criteria are met. The first two messages occur as the temperature is decreasing and can help you know when to turn on your irrigation system, then the second two occur as the temperature is increasing and are meant to help you know when to shut down your irrigation system. You can register by clicking here.

The Irrigation Scheduler is available for stations at which ET is calculated. This link takes you to a separate page on which you can submit certain field-related information, then view a recommended irrigation schedule for that field. If your station does not have a solar radiation sensor, then the irrigation scheduler will not be available for your station. This text will state that the scheduler is not available, and a blue asterisk will indicate that solar radiation is required for these calculations.

When you select this link, a new page will appear that shows the irrigation scheduler.

As you can see, there are two sections in which to submit information. In the first section, you can type in the distance between rows and planting date, then select a crop from the drop down menu. In Irrigation System, you can type in the application rate and also the system efficiency. Then, select create schedule to view a recommended watering schedule over the next two weeks.

Thank you for taking the time to watch this tutorial on how to use the My Florida Farm Weather system, a program funded by the Florida Department of Agriculture and Consumer Services.