

10.0 WEATHER STATION SETUP

Weather Station Setup: Weather Station setup is used to configure Command Center to communicate with, and gather ET and rain information from, Campbell Scientific Weather Stations.

1. In the toolbar at the top of the screen select **Setup** and then scroll down to the words **Weather Station** and click on it (Figure 10.0.1).

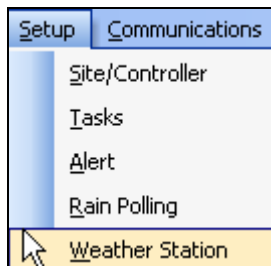


Figure 10.0.1

Note: This will take you to the “**Weather Station Setup**” screen (Figure 10.0.2).

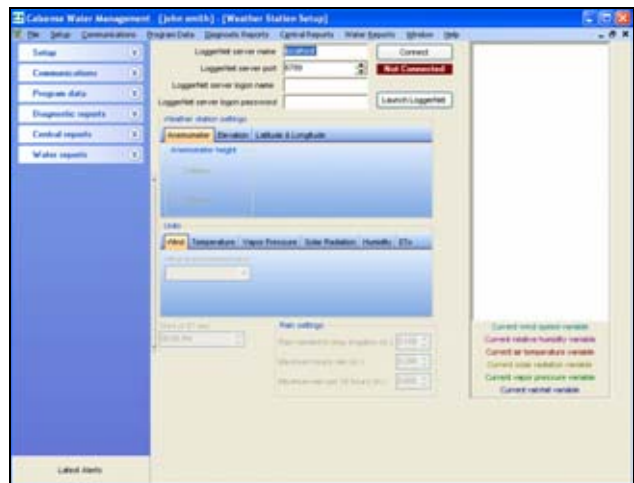


Figure 10.0.2

Note: This screen may appear different if only ETo entry is required. For instructional purposes all individual entries will be shown in this section.

LoggerNet Server Name: This is the name or IP address of the computer that **LoggerNet** is running on. If running on the same computer than this one, the server name is LOCALHOST this is the default address.

LoggerNet Server Port: 6789 is the channel number. Leave this number as is. It is the default and should not be changed unless told to do so by a Calsense representative.

LoggerNet Server Logon Name: This is setup in the **LoggerNet** program as your **LoggerNet** server logon name. Use the same exact name.

LoggerNet Server Logon Password: This is setup in the **LoggerNet** program as your **LoggerNet** server password. Use the same exact password.

1. If **LoggerNet** is not currently running on your computer. Click on the Launch **LoggerNet** button to start the program (Figure 10.0.3)

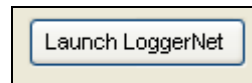


Figure 10.0.3

2. Click on the **Connect** button to communicate with **LoggerNet** (Figure 10.0.4).



Figure 10.0.4

Note: If you are not currently connected to **LoggerNet** a **Not Connected** signal will appear directly under the **Connect** button.

Note: If you are connected to **LoggerNet** the **Connected** signal will appear directly below the **Connect** button (Figure 10.0.5).

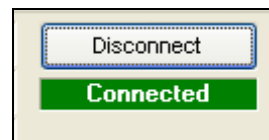


Figure 10.0.5



Note: If you want to disconnect from *LoggerNet* click on the **Disconnect** button.

Note: When you are connected to the available weather stations they will show up in the “**Weather Station**” window (Figure 10.0.6)



Figure 10.0.6

Note: Clicking on the “+” symbol to the left of the weather station name will expand the folder to show more information folders. These folders should contain your weather station information in the following manner. By the Minute, Hourly, and Daily (Figure 10.0.7)

Note: Every weather station labels their folders differently so you will have to search for the right information, and in which folder it is located in.

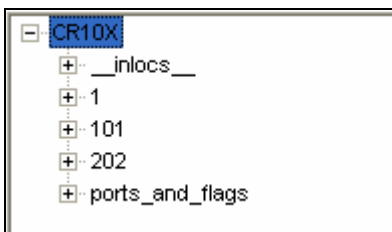


Figure 10.0.7

Using CR10X as our weather station example there are two ways in which we can collect weather data:

Method One

In the legend at the bottom of the **Weather station** window you will see two (2) entries (Figure 10.0.8)

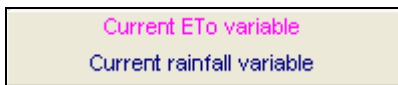


Figure 10.0.8

Note: Using this method you only need to find the hourly Eto variable.

- By using the “+” symbols to the right of each folder search through them until you find a folder with a title similar to Total ETo (Figure 10.0.9).

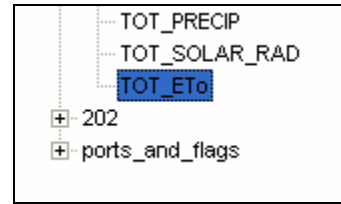


Figure 10.0.9

- Right click on this folder to open up the **selections** window (Figure 10.0.10).

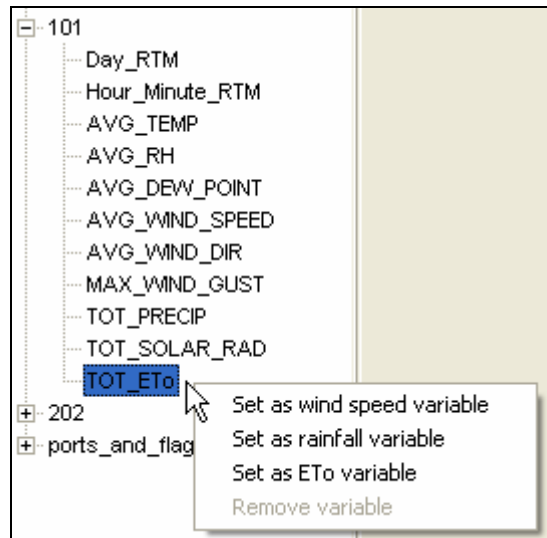


Figure 10.0.10

- Scroll down to **Set as ETo variable** in the **selections** window and click on it (Figure 10.0.11)

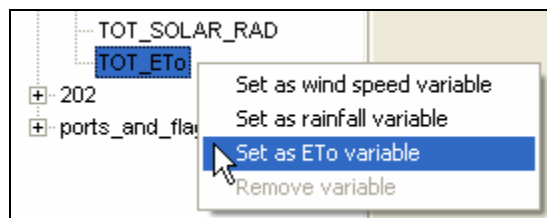


Figure 10.0.11

Note: If done correctly this will change the color of the folder to the same color as the Current ETo variable color in the legend (Figure 10.0.12)



Figure 10.0.12

Note: This selection will collect all of the data required to operate your weather station within Command Center.

Note: If you are going to use the weather station to collect rain data use this same method to select the appropriate rain data folder and assign it as your current rainfall variable.

Method Two

In the legend at the bottom of the **Weather station** window you will see several entries (Figure 10.0.13).

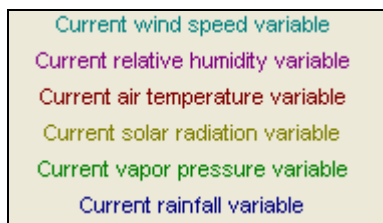


Figure 10.0.13

Note: You will have to select each Hourly Weather Data folder and enter them one at a time.

- In the weather station folders find the folder that is responsible for the hourly wind speed (Figure 10.0.14).

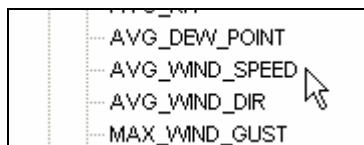


Figure 10.0.14

- Right click on the folder to open up the **selections** window (Figure 10.0.15).



Figure 10.0.15

- Scroll down to set wind speed variable in the **selections** window and click on it (Figure 10.0.16).

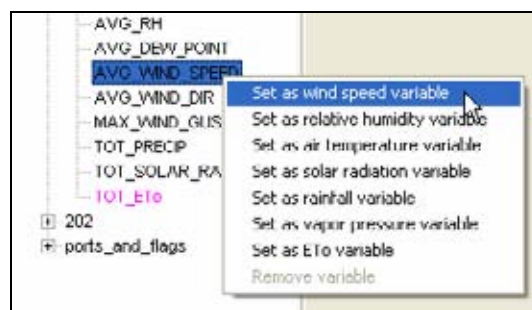


Figure 10.0.16

Note: If done correctly this will change the color of the folder to the same color as the current wind speed variable color in the legend (Figure 10.0.17).

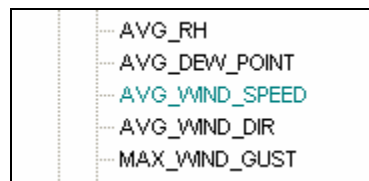


Figure 10.0.17

Note: Use the same steps to install the following settings:

- Current relative Humidity
- Current air temperature variable
- Current solar radiation variable
- Current vapor pressure variable
- Current rainfall variable

Note: When all folders are assigned properly, you are done with this window.



Weather Station Settings : This window contains the following information: (Figure 10.0.18).

Note: The weather station that you are changing setting on will have to be highlighted in the **Weather station** window.

Anemometer: Click on this tab to enter the site Anemometer information.

- **2 meters:** If the Anemometer is installed on a two meter pole click on this bubble.
- **3 meters:** If the Anemometer is installed on a three meter pole click on this bubble.



Figure 10.0.18

Elevation: Click on this tab to enter site elevation information (Figure 10.0.19).

Site Elevation: Enter the elevation number in this box.

Elevation measured in:

- **Feet:** If the site elevation is measured in feet click on this bubble.
- **Meters:** If the site elevation is measured in meters click on this bubble.

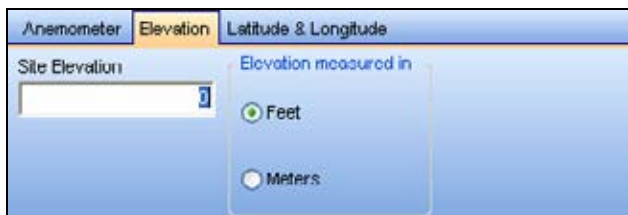


Figure 10.0.19

Latitude & Longitude: Click on this tab to enter the site latitude & longitude information (Figure 10.0.20)

- **Site Latitude:** Enter the numerical measurement for the site Latitude in this box.
- **Site Longitude:** Enter the numerical measurement for the site Longitude in this box.

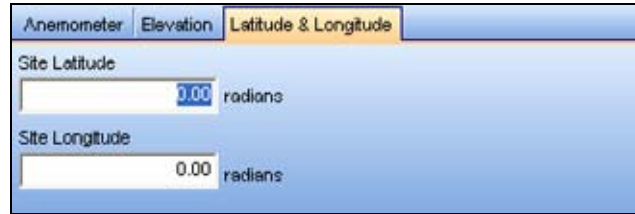


Figure 10.0.20

Units window: This window contains the following information:

Wind: Click on this tab to enter the site wind information (Figure 10.0.21).

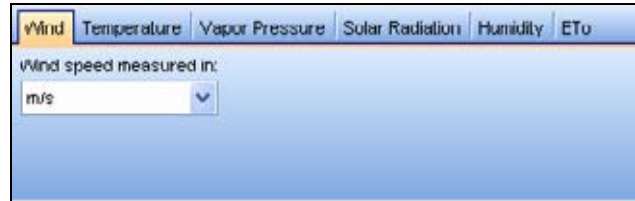


Figure 10.0.21

Wind speed measured in: Use the pull down window to choose from the following: (Figure 10.0.22).

- **m/s:** Use this setting if wind speed is measured in meters per second.
- **mph:** Use this setting if wind speed is measured in miles per hour.

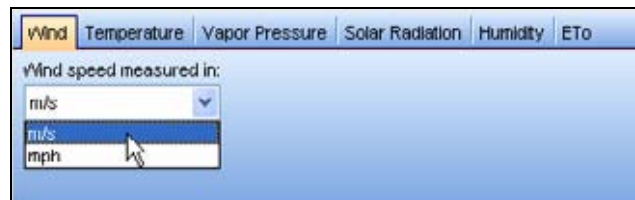


Figure 10.0.22

Temperature: Click on the temperature tab to enter the site temperature information (Figure 10.0.23)

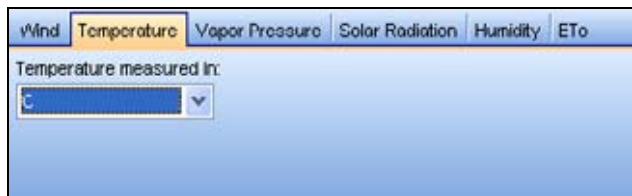


Figure 10.0.23

Temperature measured in: Use the pull down arrow to choose from the following: (Figure 10.0.24).

- **c:** Celsius scale of measurement where the freezing point of water is 0 degrees and the boiling point of water is 100 degrees under normal atmospheric conditions.
- **f:** Fahrenheit scale of measurement where the freezing point of water is measured at 32 degrees and the boiling point of water is measured at 212 degrees at 1 atmosphere of pressure.
- **k:** Kelvin scale of measurement whose absolute zero point is approximately minus 273.16 degrees Celsius.

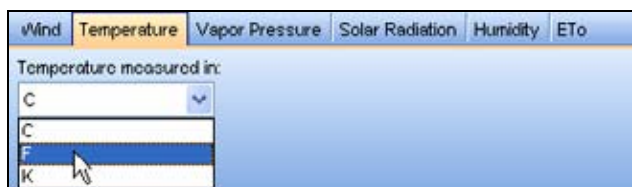


Figure 10.0.24

Vapor Pressure: Click on this tab to enter the site vapor pressure information (Figure 10.0.25).

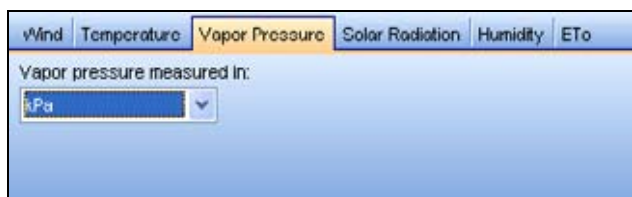


Figure 10.0.25

Vapor pressure measured in: Use the pull down arrow to choose from the following: (Figure 10.0.26).

- **Kpa:** Kilopascal scale of measurement where 1Kpa=10 millibars.

- **Pa:** Pascal scale of measurement where 1Pa equals one Newton per square meter.
- **Bars:** Bar scale of measurement where 1 bar equals 100,000 pascals.
- **mBars:** Millibar scale of measurement where 1 millibar equals 100 pascals.

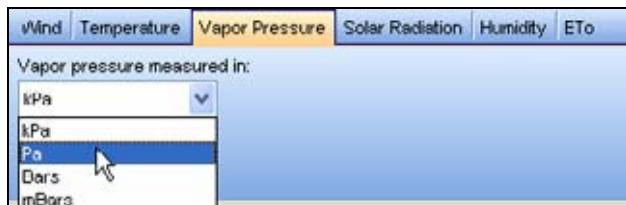


Figure 10.0.26

Solar Radiation: Click on this tab to enter the site solar radiation information (Figure 10.0.27).

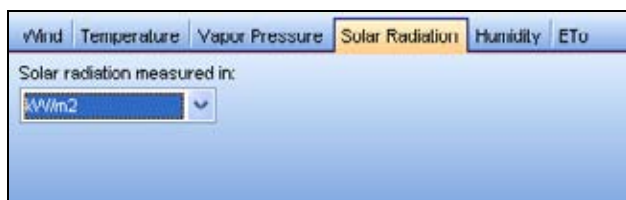


Figure 10.0.27

Solar radiation measured in: Use the pull down arrow to choose from the following (Figure 10.0.28).

- **kW/m2:** Killowatts per meter squared.
- **W/m2:** Watts per meter squared.
- **Ly/day:** Langley unit of measurement where 1 langley equals 1 calorie divided by one centimeter squared.

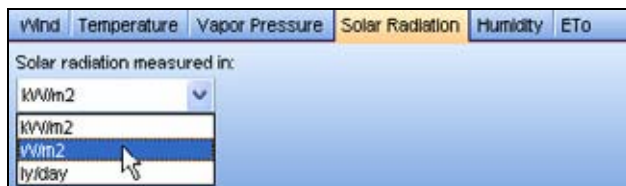


Figure 10.0.28

Humidity: Click on this tab to enter the site humidity information (Figure 10.0.29)



Humidity stored as a percent:

- **No:** If the site humidity is not measured as a percentage, click this bubble.
- **Yes:** If the site humidity is measured as a percentage, click this bubble.

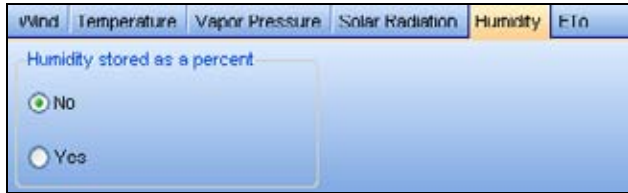


Figure 10.0.29

Eto: Click on this tab to enter the site Eto information (Figure 10.0.30).

Eto calculated in MM/hr:

- **No:** If the site Eto is not measured in millimeters per hour click on this bubble.
- **Yes:** if the site Eto is measured in millimeters per hour click on this bubble.

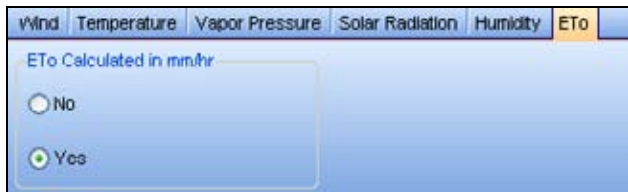


Figure 10.0.30

Start of ET Day: Use the **UP** and **DOWN** arrows to enter the time of day that you have your controllers set to start a new ET day (Figure 10.0.31)

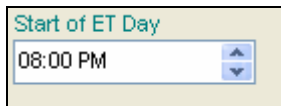


Figure 10.0.31

Rain Settings: Use the **UP** and **DOWN** arrows to set the following rain measurements (Figure 10.0.32).

Rain Needed To Stop Irrigation (in): This setting determines how much rain must fall, before the controller will start accumulating rainfall values in the rain table. It also determines when to halt any ongoing irrigation. In Figure 10.0.32 (.10) inches of rain will have to fall before any rain data starts to accumulate in the rain table.

Maximum Hourly Rain (in): This setting determines the maximum amount of rain that will be put in the rain table after a period of one hour of rain. In figure 10.0.32 a maximum of (.20) inches of rain will be put into the rain table, no matter how much rain falls in a 1 hour period. The amount of rain from this setting, put into the rain table, will increase only until it reaches the next setting.

Maximum Rain per 24 Hours (in): This setting determines the maximum amount of rain that will be put into the rain table in a 24 hour period. In figure 10.0.32 a maximum of (.60) inches of rain will be put into the rain table, no matter how much rain falls in a 24 hour period. The amount of rain from this setting, put into the table, will increase only until it reaches the next setting.

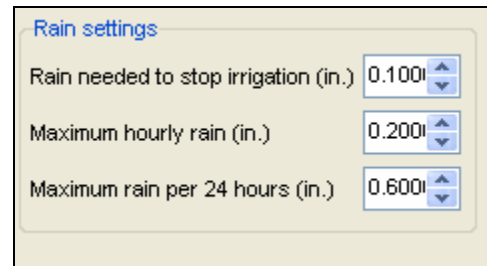


Figure 10.0.32

