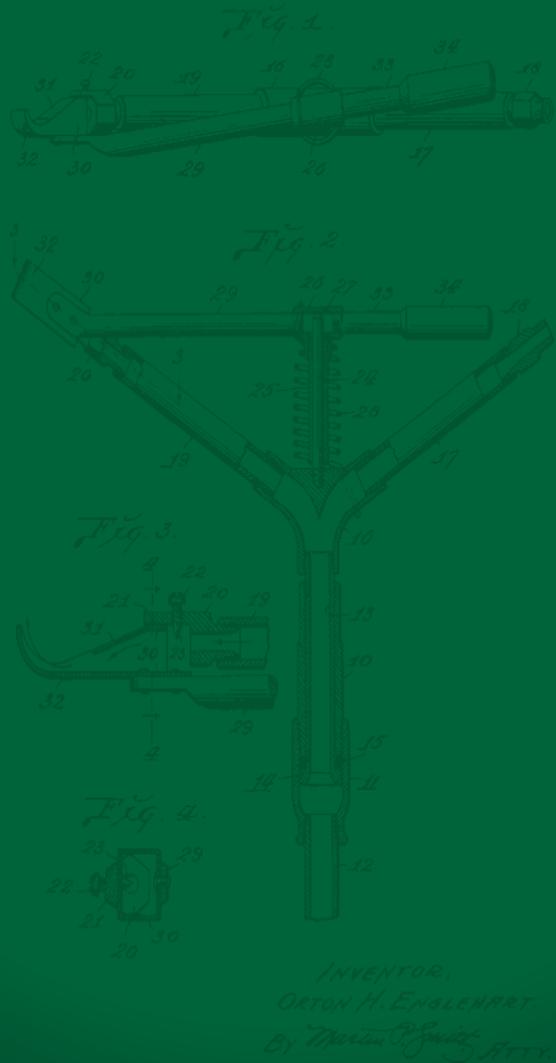


April 16, 1935

G. H. ENLEHART  
WATER SPRINKLER  
FILM No. 19, 193

1,997,901



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**iQ4**

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Simple ET

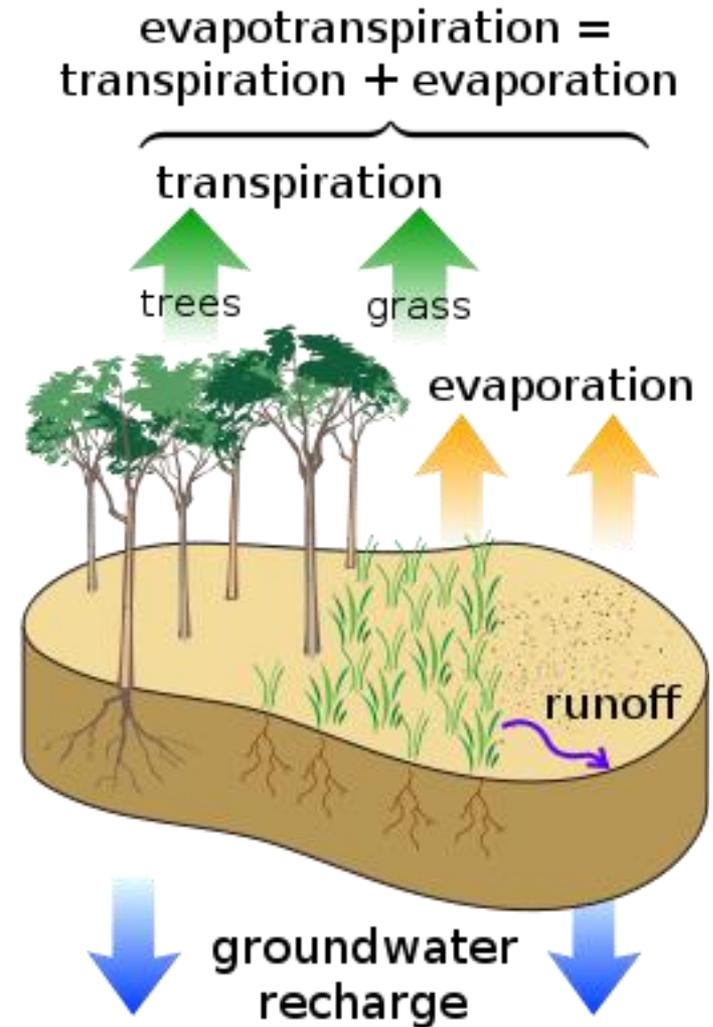
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# Evapotranspiration (ET) Defined

## EvapoTranspiration

The process by which water is transferred from the soil to the atmosphere by Evaporation and by Transpiration from plants.



# Simple ET

Simple ET automatically adjusts individual stations each day according to the weather.

*Simple ET is easy; identify a Global Weather Source for the controller and Base Run-time for each station*

Base Run-time should be chosen to properly irrigate during the highest-average ET month of the year at the controller's location (Hot ≠ Humidity)

*IQ4 will gather ET value daily and automatically adjust the station Run-times*

# Simple ET



## Example:

- Highest monthly-average ET for Site from the weather source is 0.35" that day
- The user inputs 15 minutes as a base runtime
- IQ4 aligns these two parameters

# Simple ET

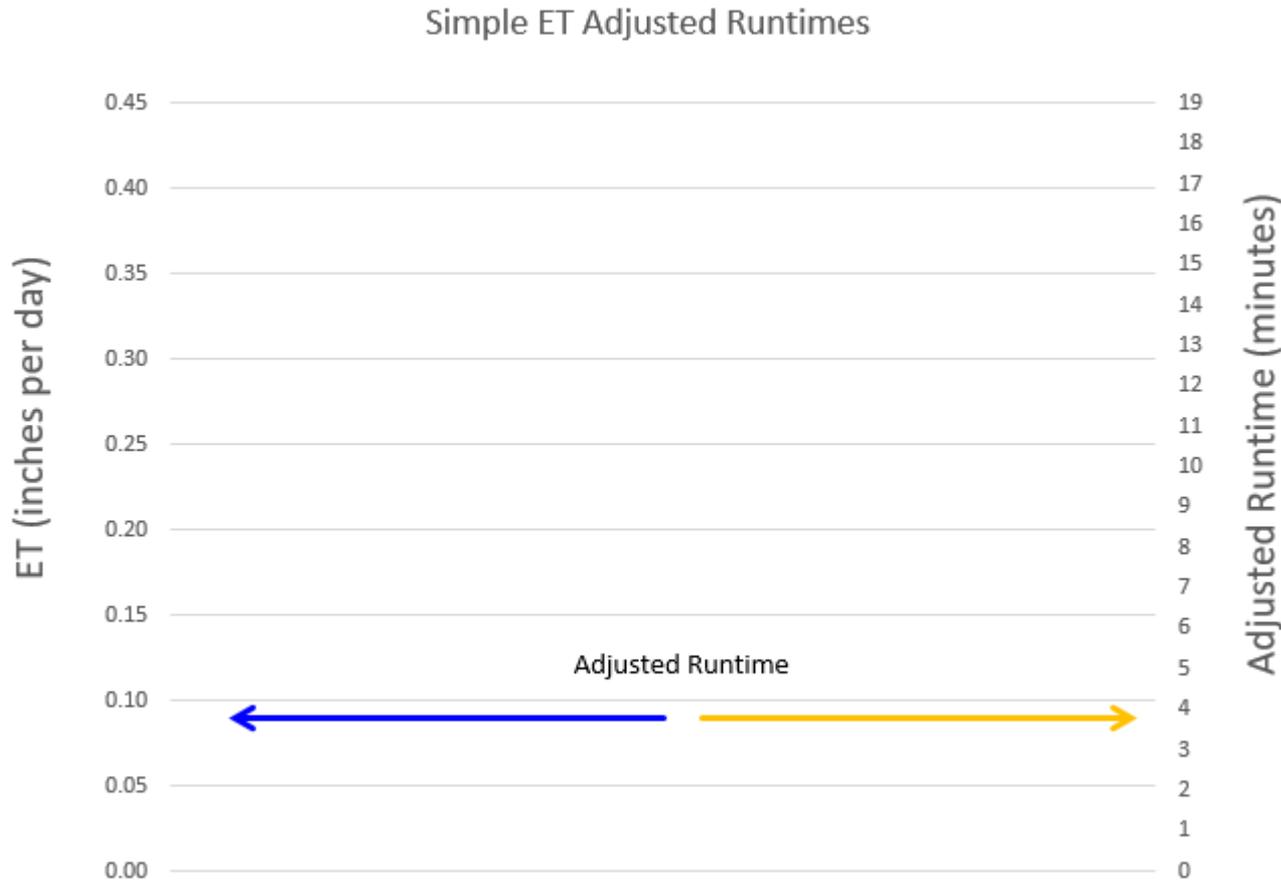


## Example:

- The weather source reports ET of 0.25" that day
- IQ4 adjusts the run-time to 10.7 minutes
- IQ4 will perform this adjustment for all days set to run

Note: (current ET / highest monthly-average ET) \* base run-time = (0.25 / 0.35) \* 15 = 10.714 minutes

# Simple ET



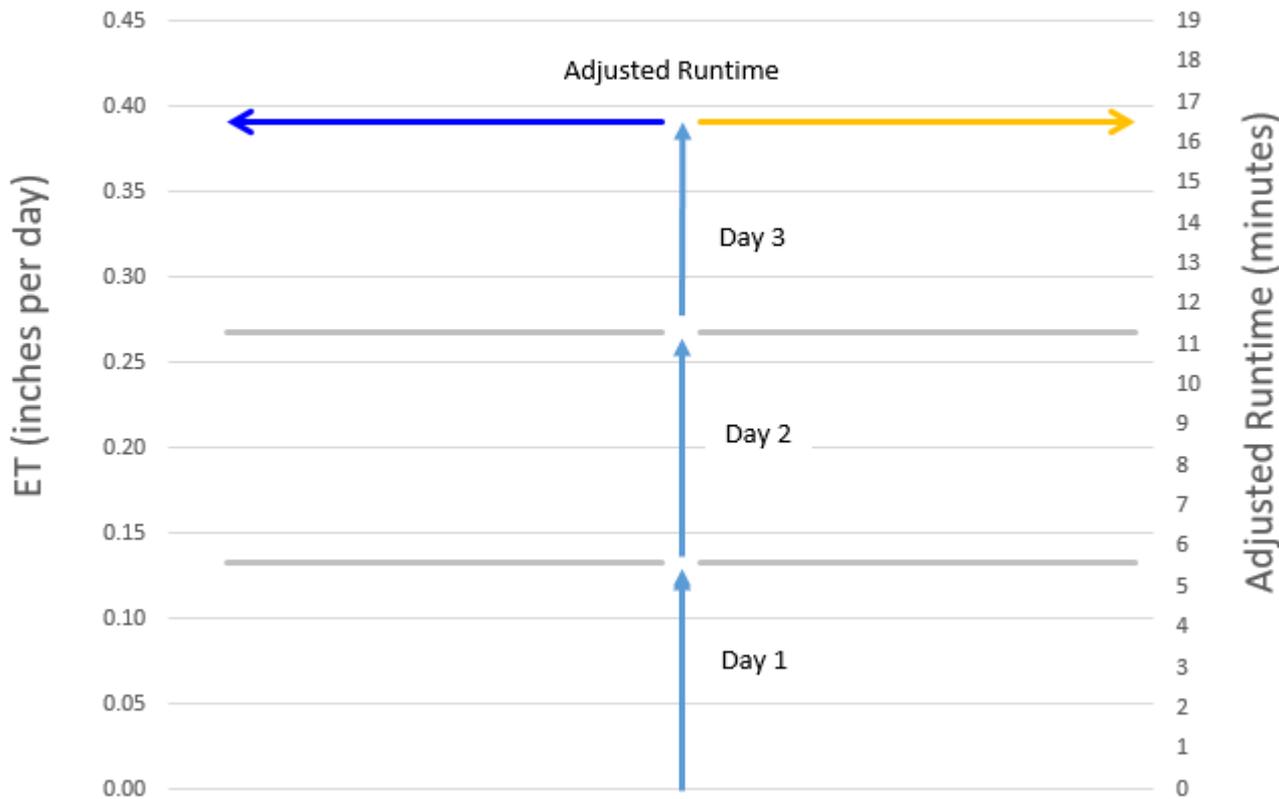
## Example:

- The weather source reports ET 0.09 that day
- IQ4 adjusts the runtime to 3.9 minutes
- IQ4 will perform this adjustment for all days set to run

Note:  $(\text{current ET} / \text{highest monthly-average ET}) * \text{base run-time} = (0.09 / 0.35) * 15 = 3.857 \text{ minutes}$

# Simple ET

Simple ET Adjusted Runtimes



Only days selected to run, IQ4 will add the missed day's ET and adjust the runtime to cover those missed days

Example:

- Water days are set for a 3-day cycle
- The ET each day is 0.13" per day
- IQ4 adds the 3 day's ET ( $3 \times 0.13" = \underline{0.39"}\text{)$
- IQ4 adjusts the runtime to 16.7 minutes

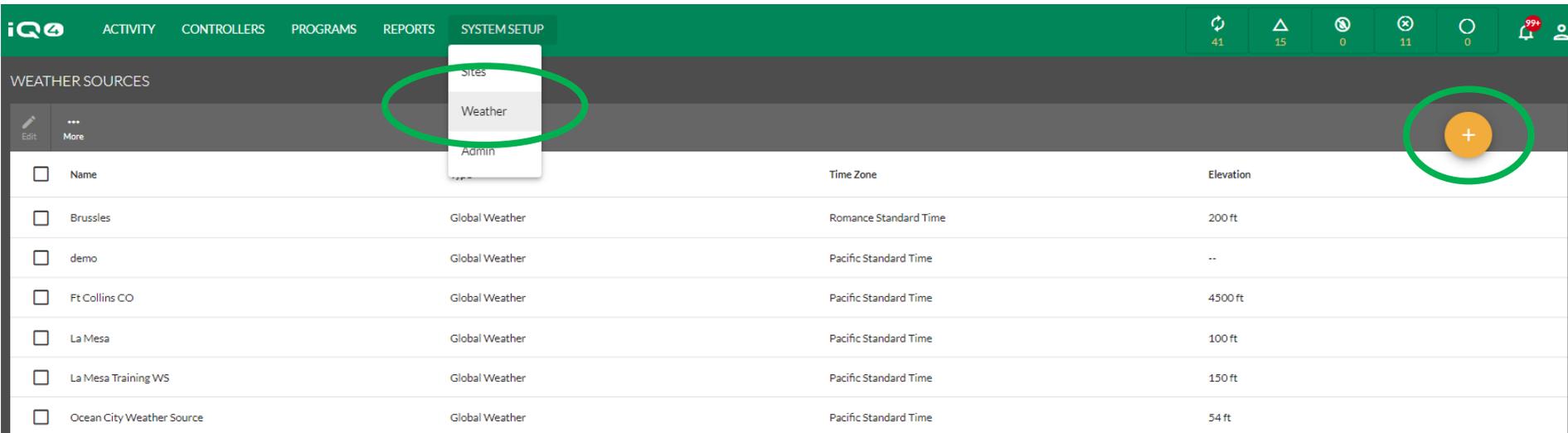
Note:  $(\text{current ET} / \text{highest monthly-average ET}) * \text{base run-time} = (0.39 / 0.35) * 15 = 16.714 \text{ minutes}$

# Simple ET

## Best Practices:

- During periods of low ETs, adjust the water days pattern to not water as often. This prevents shallow watering
- Use Group Programming to set station base runtimes that are identical
- Simple ET uses a single start time. You cannot set multiple start times for your Simple ET-based programs
- Simple ET will provide a maximum of 300% of the base runtime(s)

# Simple ET Setup

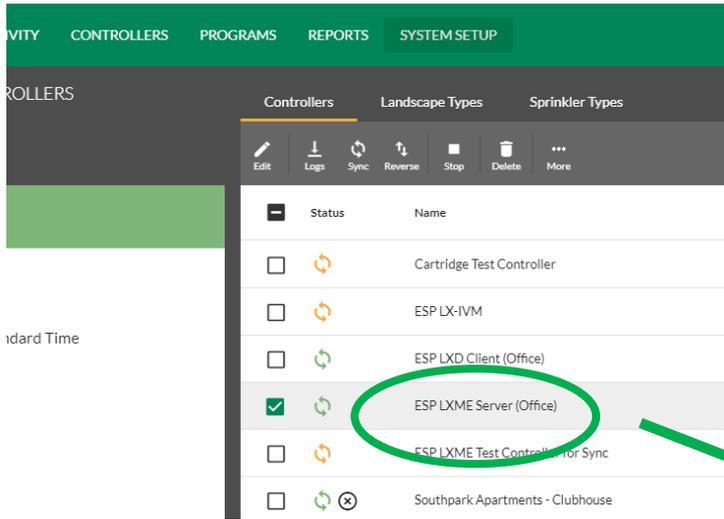


The screenshot shows the iQ4 interface with the 'SYSTEM SETUP' menu open. The 'Weather' option is highlighted. An orange circle with a white plus sign is visible in the top right corner of the table area, indicating the 'Add' button. The table below lists existing weather sources.

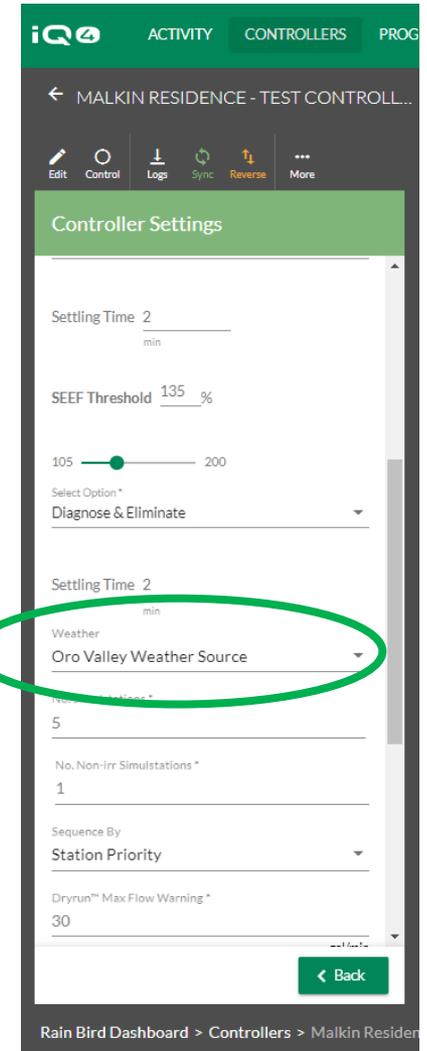
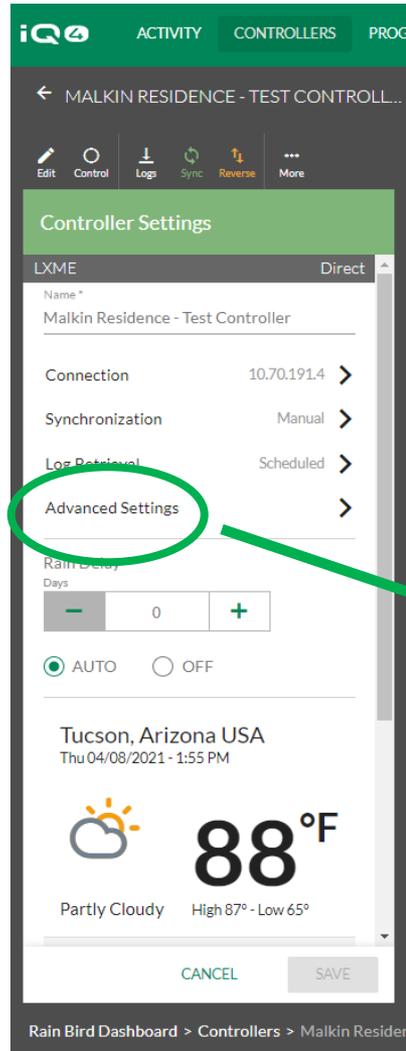
<input type="checkbox"/>	Name	Weather Source	Time Zone	Elevation
<input type="checkbox"/>	Brussels	Global Weather	Romance Standard Time	200 ft
<input type="checkbox"/>	demo	Global Weather	Pacific Standard Time	--
<input type="checkbox"/>	Ft Collins CO	Global Weather	Pacific Standard Time	4500 ft
<input type="checkbox"/>	La Mesa	Global Weather	Pacific Standard Time	100 ft
<input type="checkbox"/>	La Mesa Training WS	Global Weather	Pacific Standard Time	150 ft
<input type="checkbox"/>	Ocean City Weather Source	Global Weather	Pacific Standard Time	54 ft

- Select Weather from the System Setup menu
- Click on the Add (Orange circle with + sign)
- Enter Weather Source information
- Click Save

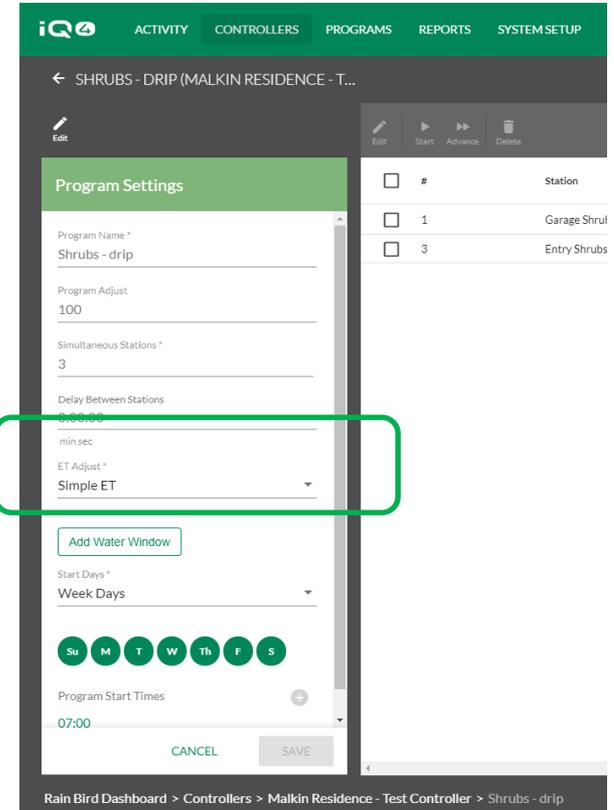
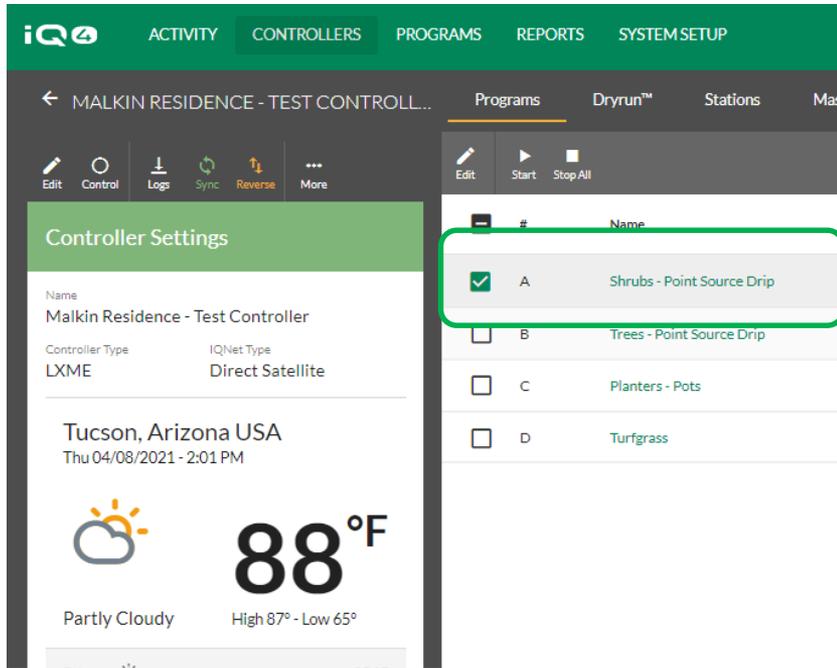
# Simple ET Setup



- Select a controller from the controller list
- Click on Edit
- Select the Advanced Settings sub menu
- Select the weather source in the edit panel
- Click Back then click Save

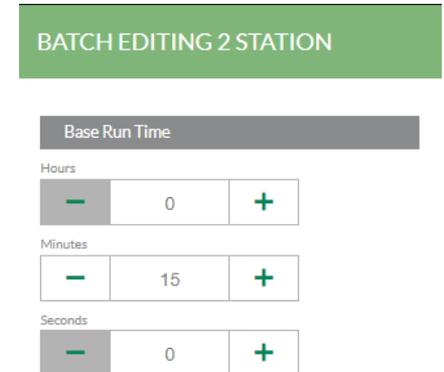
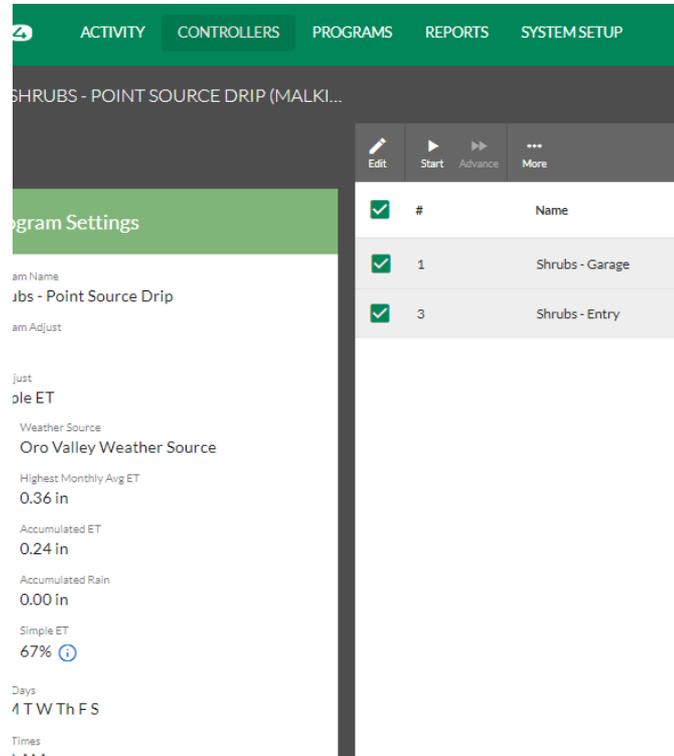
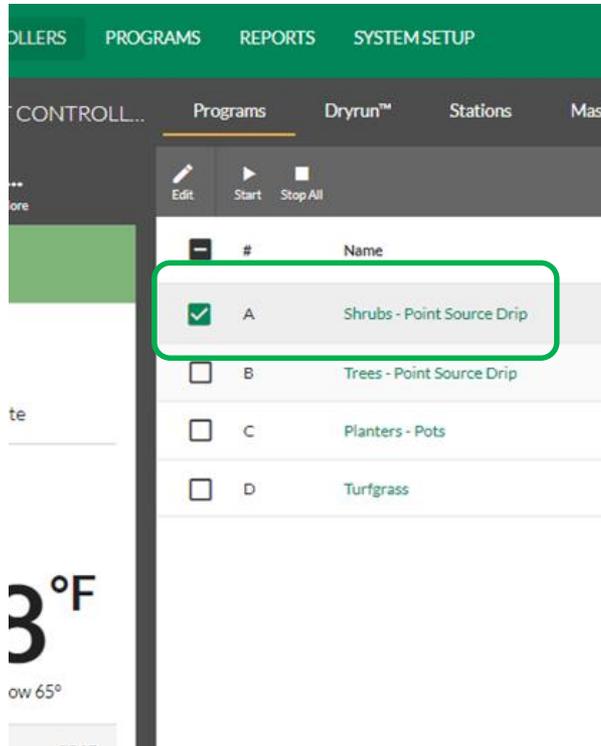


# Simple ET Setup

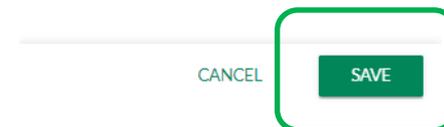


- Select a program from the program list
- Click on Edit
- Select Simple ET in the ET Adjust field
- Click Save

# Simple ET Setup



- Return to the Controller page
- Click on Programs - select a Program
- Select one or more stations that have identical run times
- Click Edit
- Enter the Base Runtime - click on Save



# FREQUENTLY ASKED QUESTIONS

# FAQs

How does IQ4 know what Global Weather will use for the highest ET to know if my station run times are correct?

- IQ4 gets the monthly average ET for each month of the year from the weather source and uses the highest one for its calculations.

How does IQ4 select the program day cycle that matches my peak station run times?

- Simple ET does not change day cycles

# FAQs

How does IQ4 calculate the station run times? What is the formula?

- $(\text{current ET} / \text{highest monthly-average ET}) * \text{base run-time}$

What factors are included in the station run time calculation? Precipitation Rate, Distribution Uniformity, Landscape Coefficient, Program Day Cycle, other?

- None of these. The user determines the Base Runtime centered on their experience, best judgement, etc.

# FAQs

How does current soil moisture balance effect how/when the program first runs? Should I water heavily or dry the site out prior to converting to IQ4 Simple ET?

- Current soil moisture balance doesn't "effect" anything at all. You should get the moisture exactly where you expect SimpleET to maintain it at the end of each irrigation cycle by watering at the same start time as planned for SimpleET. Switch to SimpleET and applications should match plant needs based on ET.

# FAQs

How does IQ4 calculate station Cycle+Soak times to prevent puddling and run off with the single program start time?

- IQ4 uses the Cycle and Soak time entered for each station no matter what starts a station (manual operations, automatic operations, etc.) It will use Cycle and Soak with the one start time.

How do I see what my programs are going to do (program end time, estimated total water use, other)?

- Dry Run, will be in IQ4 by end of December 2019

# FAQs

How do I find tune station run times that are under or over watering?

- Adjust the base runtime

How do I calculate the program day cycle required for different times of the year/ETs?

- Adjust the day cycle until the runtimes are high enough for proper operation of the sprinkler type
- Later IQ4 versions will have more advance ET capabilities

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