SapIP Services
From

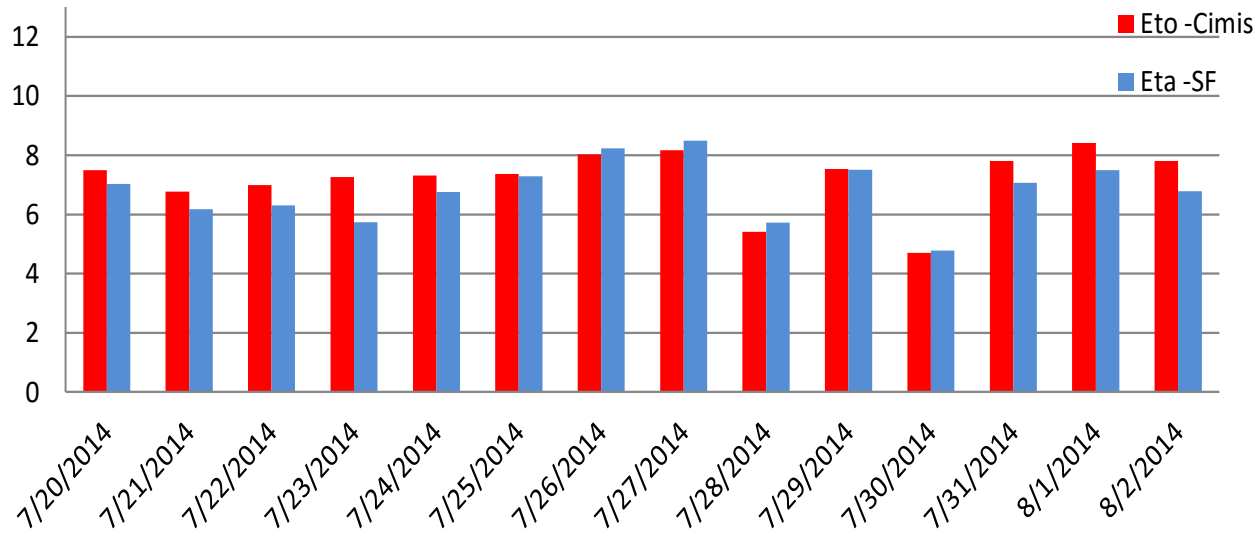# Water is a Precious Resource

- Maximize Water Use Efficiency

- How Much to Irrigate?

- When to Irrigate?

- Manage Plant Stress

- Our Advanced Sensors
  - Measure the plant water use directly, gals/hr or Total gals/day

Sap Flow
is the
Plant Response
to All Environmental Conditions

- Weather
- Water Availability
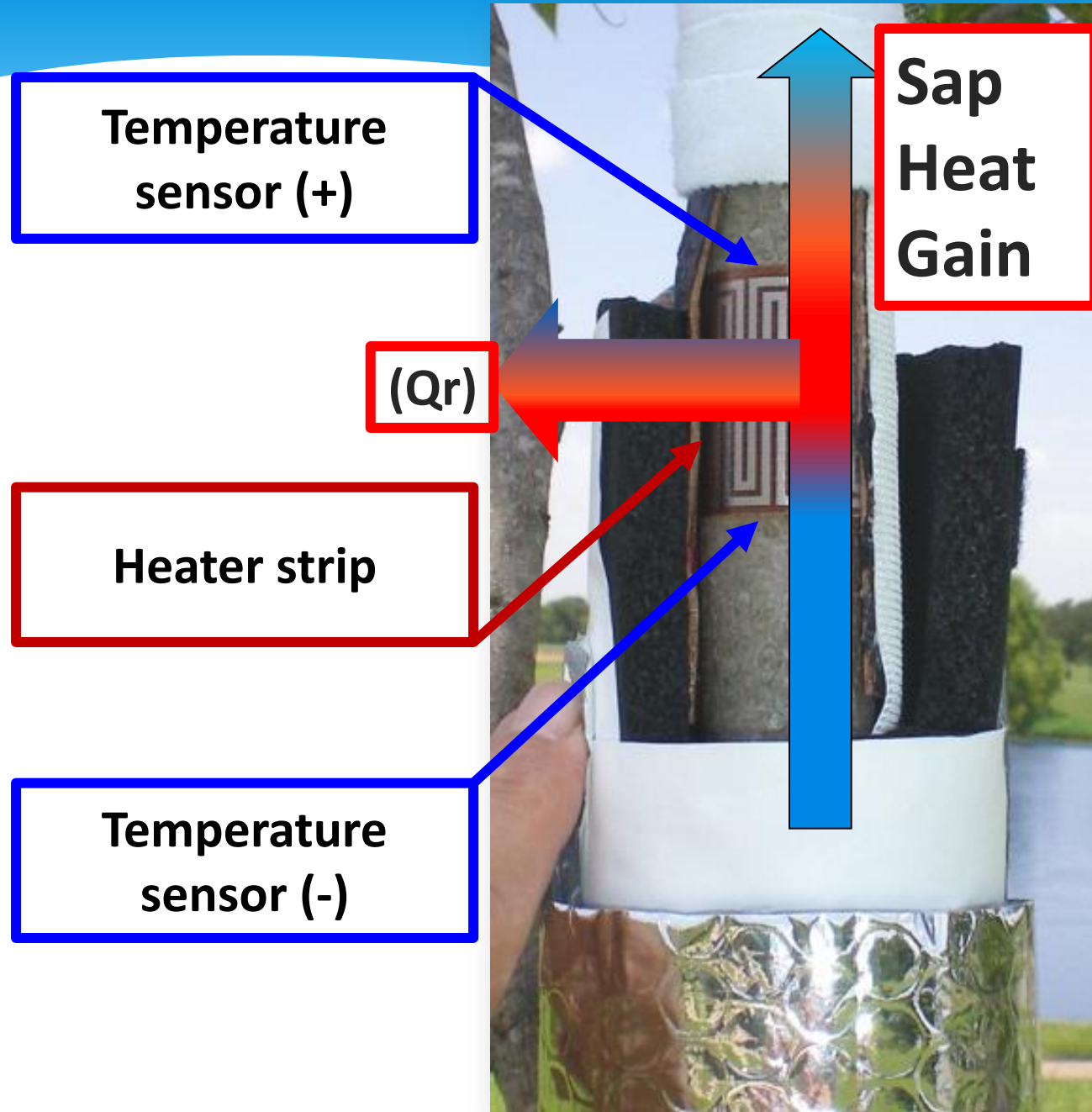- Soil Status
- Root Health
- Disease
- Fertility

Sap Flow vs ETo CIMIS FSU Campus
(mm) 12.7 mm = 1/2 in

Legend:
- Eto -Cimis
- Eta -SF

Sap Flow Sensor measures
Plant Transpiration

- gals/hr
- Total gals/day

Temperature sensor (+)

Sap Heat Gain

(Qr)

Heater strip

Temperature sensor (-)

Heat Balance: Heat in equals heat out, including heat carried by the sap. (2-3 °C)

SapIP Wireless
Data Logger

WWW.Agrisensors.NET
✓ **Plant Water Use**

✓ **Stress Factor**

✓ **ET and weather**

✓ **Soil moisture profiles**

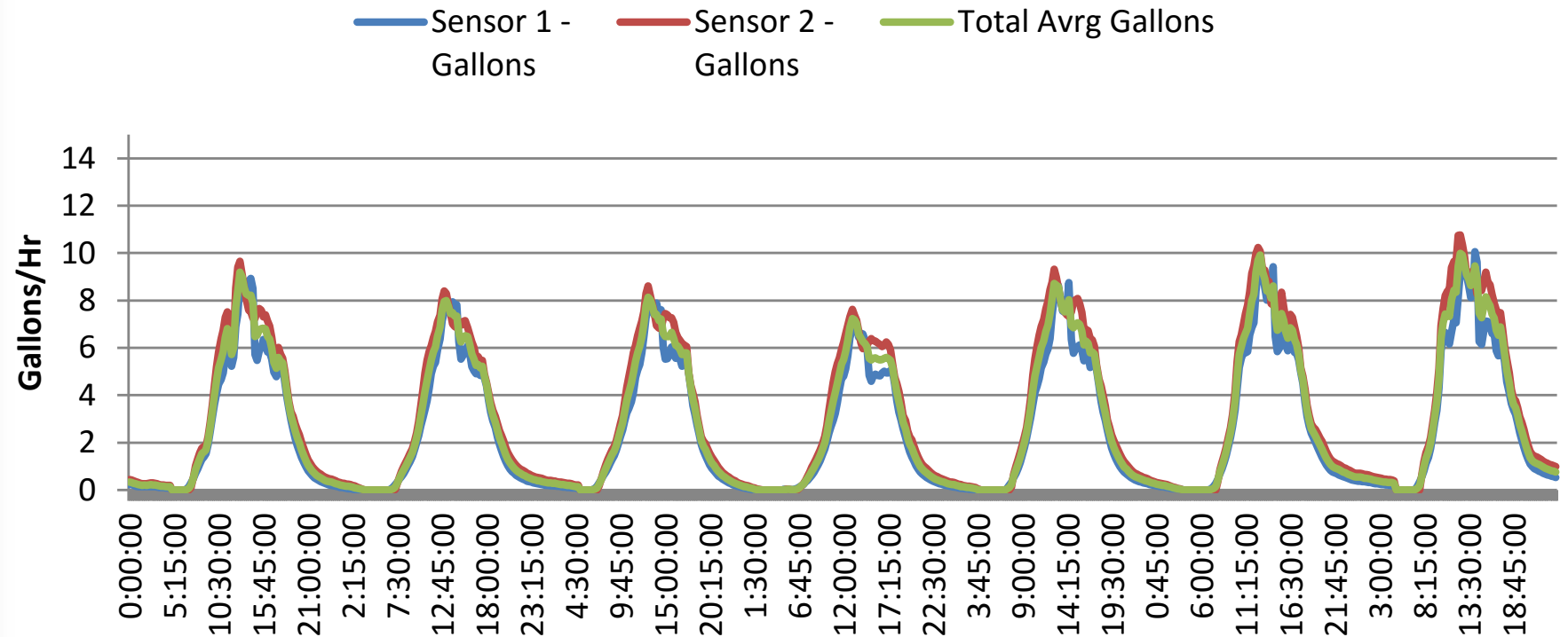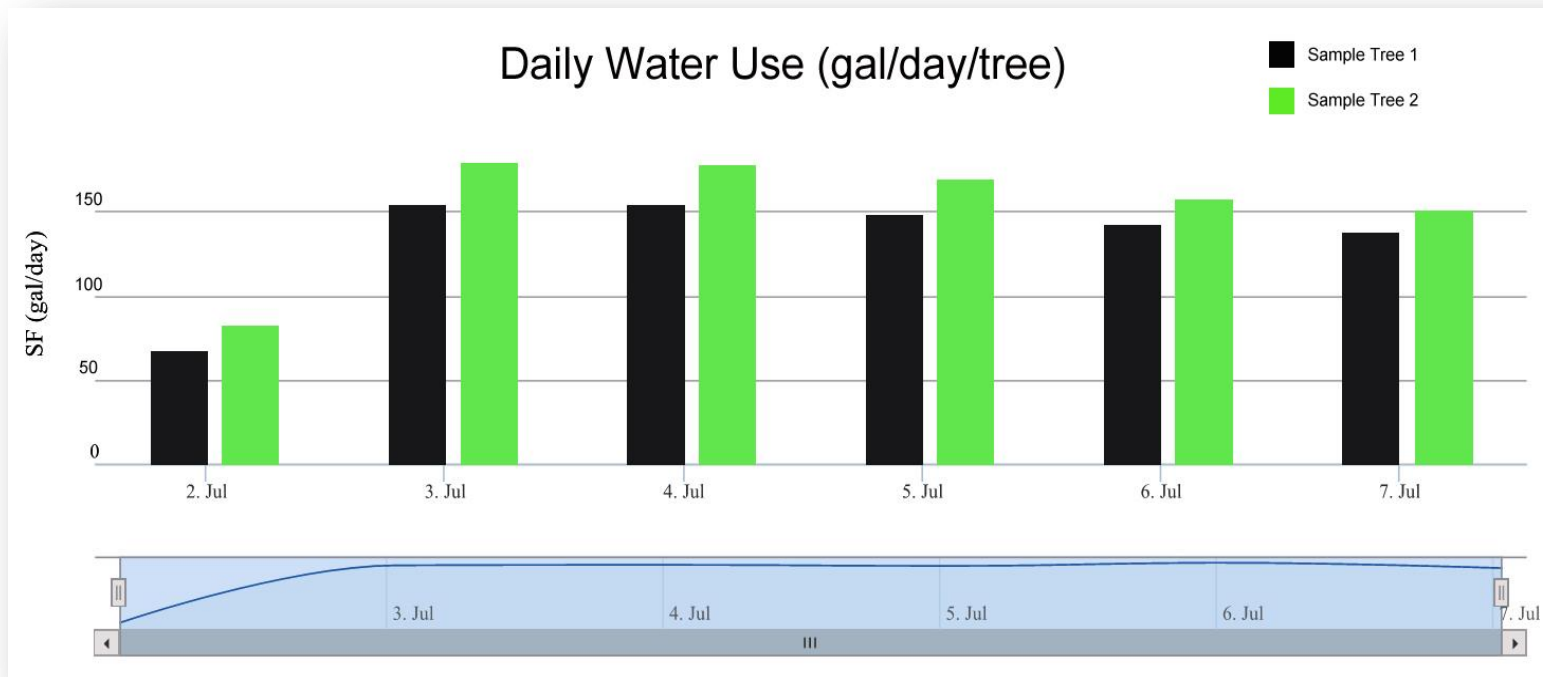# Agrisensors.NET Remote Network

Current Plant Water Usage

Hour by hour, tree transpiration

Response to weather, irrigation, stress.

Daily Water Use Totals
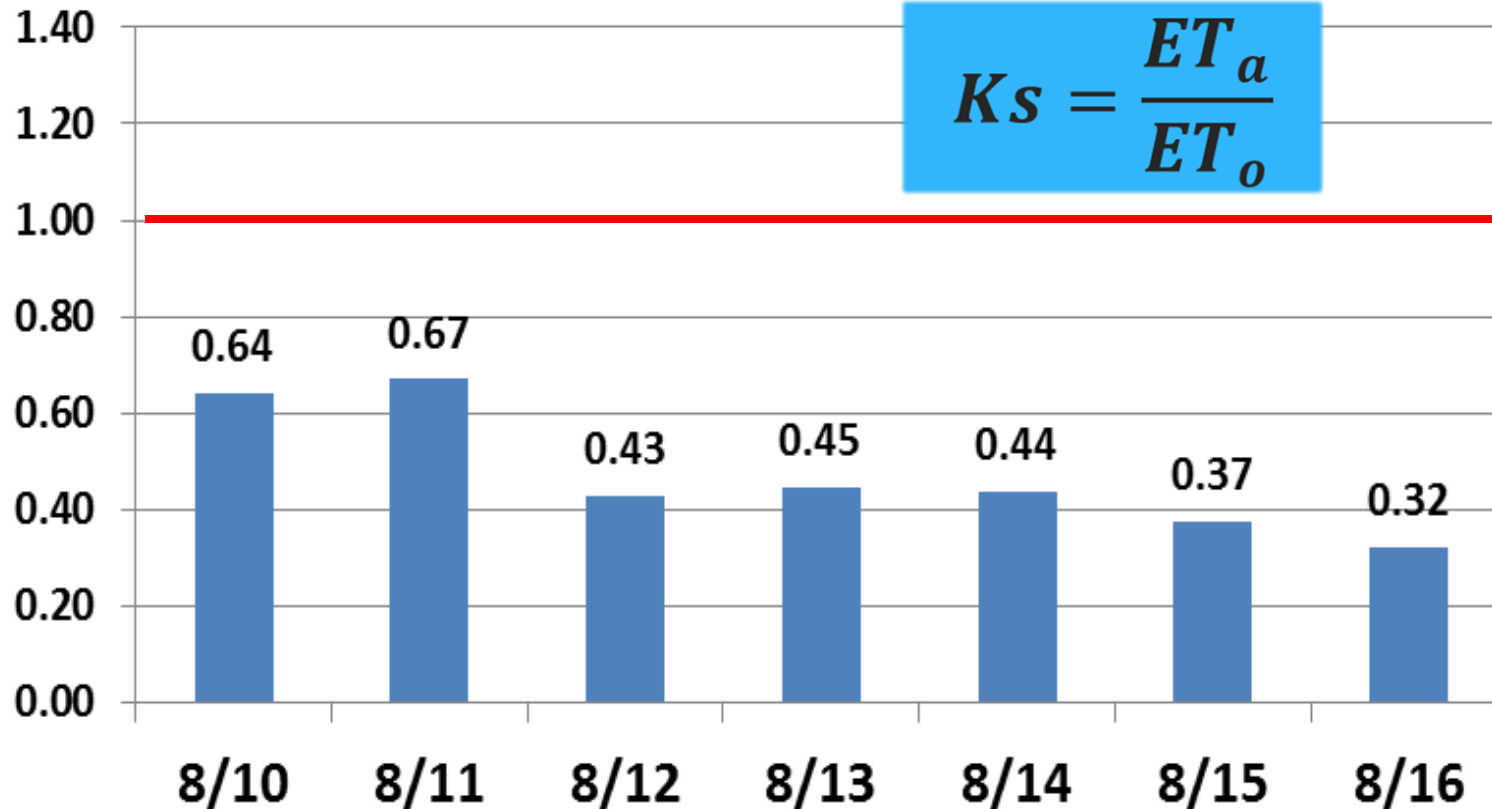

Daily Water Use (gal/day/tree)

- Create Water budgets and conserve Water

- Per tree water use is extrapolated to entire irrigation zones; trees/acre.

Stress Factor
1.0 means no stress and well-watered, 0.6 means using 60% as much water

Stress Coefficient - Ks

$$Ks = \frac{ET_a}{ET_o}$$

	8/10	8/11	8/12	8/13	8/14	8/15	8/16
Ks	0.64	0.67	0.43	0.45	0.44	0.37	0.32

Plants Tell You The Stress Level
by Sap Flow Rate per Hour

Dynamax monitors plant stress:

- **Plant bio-feedback for Intelligent Decisions**

- **Plant activity – When to irrigate & how much**

  - **Deficit Irrigation**

  - **Maximize water use efficiency**

  - **Water Conservation**

- **Plant health – When to apply nutrients**

- **Improve Recovery Time – Avoid significant losses**

SapIP-SM Soil Moisture Nodes

- Add to SapIP Wireless Networks
- Soil Moisture Profiles
- Works well in all kinds of soils
- Water Content +/- 2%
- SapIP with (4) or (6) SM150 Sensors
- Bury at 6", 1 ft, 2 ft, & 4 ft
- No maintenance required

Additional tools to better understand Plant Water Use

SapIP-MICRO Weather Kits

- Add to SapIP Wireless Networks

- Complete ET Weather Stations – RH, Air Temp, Solar Radiation, Wind Speed & Direction

- or RH & Temperature Only

- Use ET to generate "Stress Factor"

- Chill Factor & Frost Warning Available

SapIP-IRT IR Leaf Temperature Sensor

- Add IRT Sensors to SapIP Wireless Network

- Monitor Plant Stress

- Receive Frost Warnings

- 0.3 Degrees Accuracy

- Can be used with Center Pivot systems

- Wireless or used with data loggers

SapIP Services

- Sap Flow sensor needs to be adjusted every two to four weeks
- Each sensor adjustment takes about thirty minutes
- Our trained technicians will ensure that your sensors are working properly and all equipment is being taken care of.

Let us take care of the equipment so you can focus on your crops

Serving Central California & The San Joaquin Valley

Located at the WET Center at California State University Fresno

Sales, Service, & Support

On-site installation, maintenance, and warranty equipment.

Call (281)–804–6028 for details

admin@dynamax.com

www.dynamax.com