

Promoting Smart Technologies and Efficient Irrigation Systems

Water Smart Innovations, October 28, 2020



SWAT is a collaborative effort between water providers and the irrigation industry.



What is SWAT?

Mission Statement

Smart Water Application Technologies (SWAT) is an initiative to achieve exceptional landscape water use efficiency through the application of irrigation technology. SWAT identifies, researches and promotes technological innovations and related management practices that advance the principles of efficient water use.



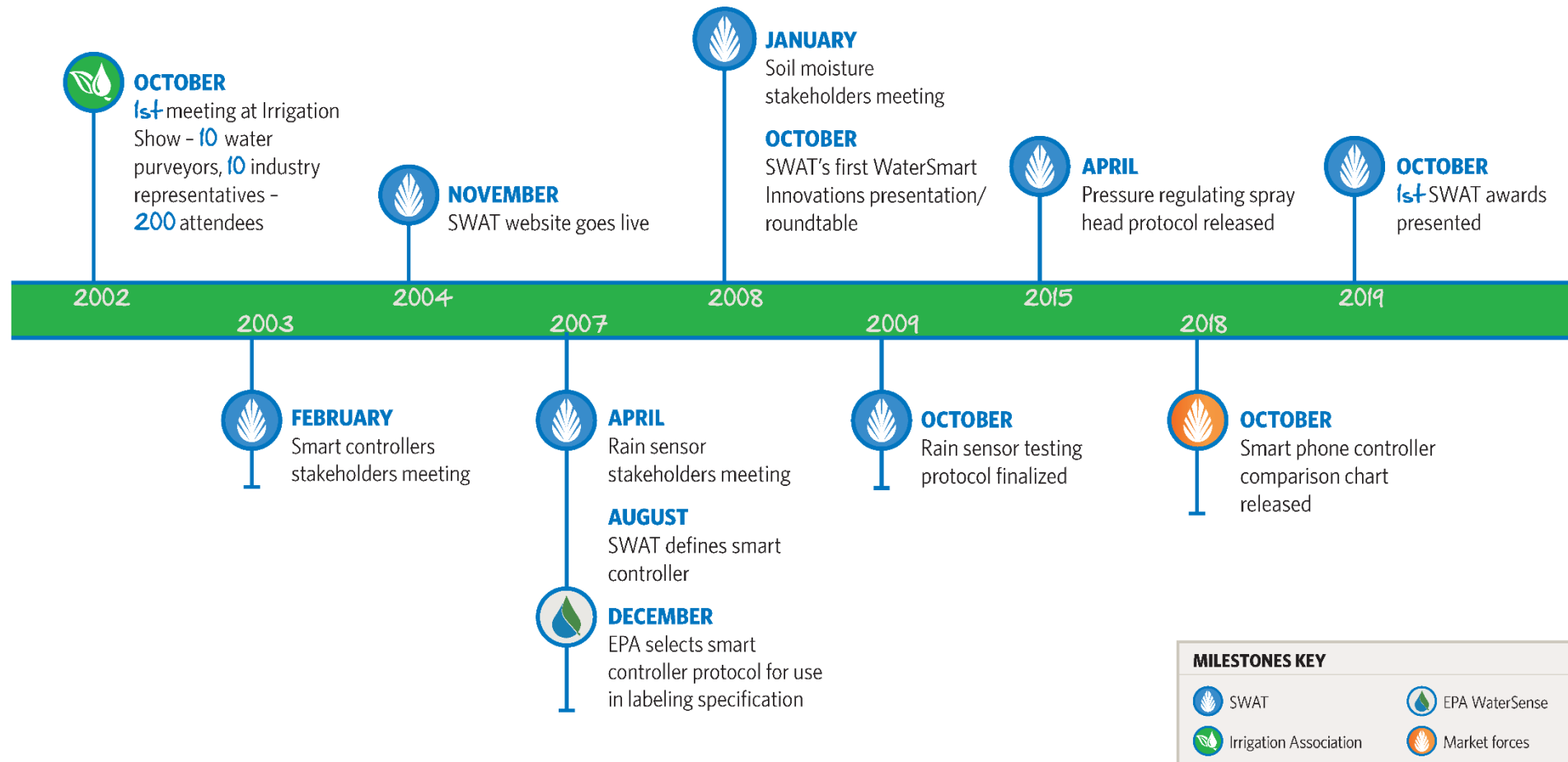
Webinar Agenda

- Mission, Goals and History
- Organizational Structure & Volunteers
- Technology Working Group update
- Promotions Working Group update
- Q & A



SWAT Major Milestones

Celebrating over 15 years



Special Acknowledgements



- **Brian Vinchesi** – Founding and Guiding Member of SWAT since inception in 2002



- **Brent Mecham** – Retired IA Industry Development Director (since 2007)
 - 45 years in the Irrigation Industry
 - Numerous IA Professional Certifications
 - NCWCD Water Management & Conservation Specialist for 13 years
 - Co-editor of numerous industry publications including “Irrigation 6th Edition”
 - IA Staff Liaison for SWAT TWG, currently held by Mike Temple
 - Contributed to development of numerous testing protocols
 - ASIC’s 2018 “Roy Williams Memorial Award” Recipient
 - IA’s 2020 “Industry Achievement Award” Recipient

SWAT Structure

Collaboration between water providers and irrigation industry professionals who volunteer time and expertise to identify and implement strategic priorities.

- **Executive Task Team**

- Oversight of SWAT Working Groups and project priorities
- Communication with EPA, IA Board and other groups

- **Technology Working Group**

- Write Equipment Testing Protocols to validate product performance
- Alpha/Beta Testing Strategies
- Preparation/Coordination for Industry Standards Development

- **Promotions Working Group**

- Training & Educational Resources for Water Providers
- Marketing, Promotions, Rebate Program Assistance for efficient irrigation products
- Website Updates
- Awards



VOLUNTEERS (IA members)

Executive Task Team Leadership



Doug Macdonald
Chair

Aqua Engineering
CO



Brian Vinchesi
Past Chair

Irrigation Consulting Inc
MA



Mike Temple
Staff Liaison – TWG

Irrigation Association
VA



John Farner
Staff Liaison – PWG

Irrigation Association
VA



Deborah Hamlin
CEO

Irrigation Association
VA



VOLUNTEERS (IA members)

Technology Working Group



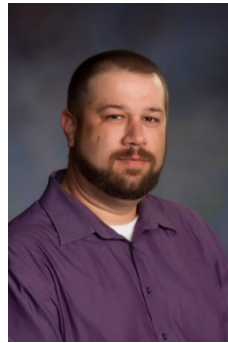
Jeff Lee
TWG Chair

Town of Gilbert
AZ



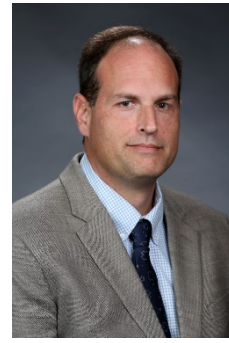
Steve Carper
TWG Vice Chair

Tualatin Valley
Water District
OR



Will Pescara
Volunteer

MAA
Communities
FL



Charles Hillyer
Volunteer

CSU-Fresno
CA



Jeff Gilbert
Volunteer

University of
Arizona



Jim Laiche
Volunteer

The Toro
Company
MN



Tom Chezem
Volunteer

Rain Bird
AZ



Kaomine Vang
Volunteer

CSU-Fresno
CA



Ben Sacks
Volunteer

Hunter
Industries
CA



VOLUNTEERS (IA members)

Promotions Working Group



Jessica Ahlstrom
PWG Chair

City of Bozeman
MT



Stacia Davis Conger
PWG Vice Chair

LSU AgCenter
LA



Carlos Bustos
Volunteer

Albuquerque Bernillo
County Water Authority
NM



Matt Shreves
Volunteer

Weathermatic
AL



Barbara Booth
Volunteer

Rain Bird
AZ



Charles Nash
Volunteer

City of Frisco
TX



Technology Working Group Update

Jeff Lee – Town of Gilbert Arizona, Water Conservation Specialist, SWAT TWG Chair

Mike Temple – IA Technical Program Director, SWAT TWG Staff Liaison



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What We Do

- SWAT no longer tests products
- Develop test protocols
- Alpha test the protocols
- Introduce them to Standards organizations
- IAPMO
- ASABE
- ICC
- Speeds up adoption



What We've Been Doing Lately

- Final draft protocol for flow sensors
- Testing the accuracy of the sensor itself



What We've Been Doing Lately

- Final draft protocol for pressure regulating remote control valves
- Testing the accuracy of the pressure regulation
- Need to alpha test the protocol



What's Next?

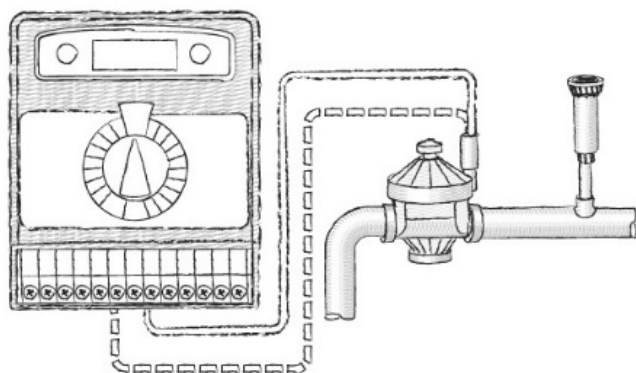
- ??????????????????
- Wireless control valves?
- Wireless flow sensing?
- We need your input



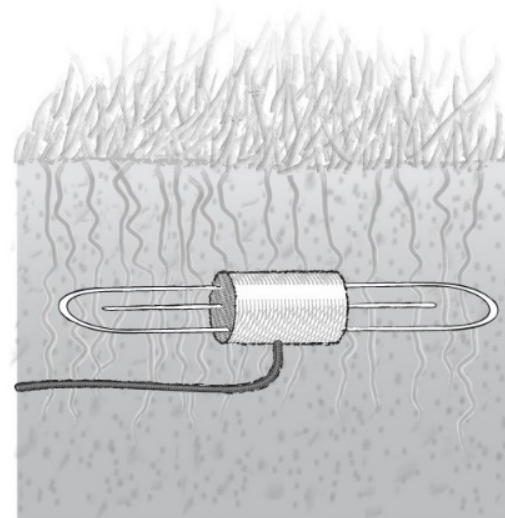
Standards update



American Society of
Agricultural and Biological Engineers



INTERNATIONAL
CODE
COUNCIL®



SWAT Promotions Working Group

Jessica Ahlstrom, CLIA – City of Bozeman Water Conservation Specialist, SWAT PWG Chair

John Farner – IA Industry Development Director, SWAT PWG Staff Liaison



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PWG Goals and Objectives

- Increase awareness of water efficient irrigation equipment and related management practices.
- Foster collaboration between water purveyors, manufacturers, distributors, contractors, and consumers.
- Recognize exemplary resources and programs which promote the use of water-efficient landscape irrigation technology.

Water Provider Case Study Library

- Goal: Develop resource library featuring programs promoting outdoor water use efficiency and smart irrigation
- Program goals, problem being addressed, metrics for measuring success, lessons learned
- Online questionnaire → program information used to build case study (IA)
- Exceptionally innovative programs → ‘featured’ case studies



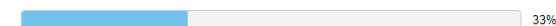
Water Provider Program Questionnaire

Purpose

The purpose of this questionnaire is to collect information on effective programs promoting outdoor water-use efficiency and smart irrigation. By submitting this survey, the information you provide will be used to develop an educational case study that will be shared on the SWAT website.

In this questionnaire, please briefly describe one program your city, county or utility has used to promote water-use efficiency and/or educate about efficient irrigation in your area (e.g. rebate programs, free irrigation assessments, contractor classes, etc).

Please note: we are seeking to collect detailed information on a single program. If you have several programs you would like to share as case studies, please complete separate questionnaires for each program.



Next

Outstanding Industry Partnership and Outstanding Public Engagement Award

- Goal: Engage water providers, recognize outstanding programs promoting outdoor water use efficiency and smart irrigation technology
- Award application includes: program goals, problem being addressed, emphasis on smart irrigation technology and education, metrics for evaluating and measuring program success, program results

And the winners are...

Outstanding Industry Partnership Award

Colorado Springs Utilities Trade Allies Program!

- Goal: increase installation of efficient irrigation products & contractor participation in rebate programs, improve contractor knowledge of efficient irrigation practices, strengthen relationship with the landscape industry, reduce demand by 16.6 AF.
- Free to low-cost educational events & IA classes, increased communication with contractors
- Landscape Industry Coupon (\$500 for purchasing efficient equipment after attending an efficient irrigation techniques class)
- Coupons have purchased: 1,275 heads, 2,389 nozzles, and pressure regulating devices saving ~14 AF.



Outstanding Public Engagement Award

Sonoma County Water Agency / Sonoma Marin Saving Water Partnership

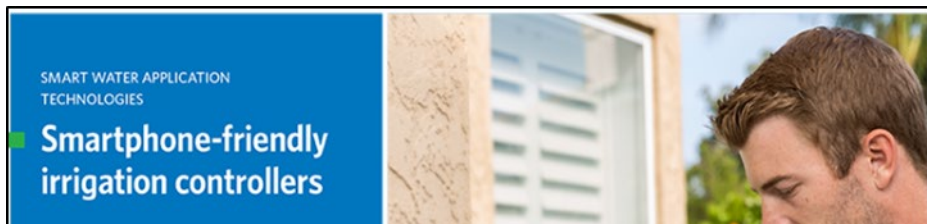
Garden Sense Program!

- Goal: Provide assistance to residents interested in participating in landscape transformation rebate programs
- Tailored landscaping and irrigation consultations with a Master Gardener in order to provide residents with the confidence and information to complete a project and save water
- So far, 370,000 sq. ft. of lawn has been converted, saving approximately 26 million gallons of water.



Promotional and educational resources

Available at www.swatirrigation.org and/or www.irrigation.org



Manufacturer	Model name(s)	EPA WaterSense certified	Maximum stations	Weather data source	Rain offset source	Rain delay?	Subscription fee	Automatic scheduling	Guest access	Home automation?	Connectivity	Other product information	Sensor capabilities	Run time input	Weather restrictions
Aeon Matrix	Yardian Smart Irrigation Controller	✓	36	Weatherbug	Weatherbug	auto.		✓	✓	✓	Wi-Fi	built-in security camera, motion detection	rain	✓	✓
Alto	Water Eco and Water Eco Lite	✓	36	real-time local weather data, uses OpenWeatherMap	real-time local weather data, uses OpenWeatherMap	auto.		✓	✓	✓	Wi-Fi	pause feature, winter dormancy, AICan smart plug to operate house appliances, manually water more than one zone at a time	built-in temperature sensor, optional rain sensor	✓	✓
Asante	Asante Irrigation Controller Kit		6								Wi-Fi plus	rain forecast feature	rain/freeze	✓	✓
Blossom	Blossom, Scotts Geo™ Controller	✓	8	current local weather and forecasts from multiple weather services	current local weather and forecasts from multiple weather services	auto.		✓	✓	✓	Wi-Fi	only for indoor installation	rain, freeze	✓	✓
BlueSpray	BlueSpray		64	NOAA	NOAA	auto.					Wi-Fi	run time in minutes or seconds, can turn on multiple valves simultaneously	rain, freeze, flow	✓	✓
ET Water	Hermit Crab 2 and Smart Box	✓	+	Accuweather	Accuweather	auto.	✓	✓	✓	✓	Cell	subscription-based product; add-on to various models of Hunter, Inlet, Toro, Superior, Weathermatic, Rain Bird and Rain Master controllers	flow, rain	✓	✓
Galcon	Cyberair	✓	24	local weather stations							RF, HW	flow monitor, alerts	rain, freeze, soil moisture, flow	✓	✓
Hunter	HC Pro-HC, HPC Pro-C, Hydewise™, HCC	✓	54	Weather Underground and The Weather Channel; local airport weather stations, personal weather stations and/or virtual weather station options available	Weather Underground and The Weather Channel forecasts, weather station data and/or on-site rain shut-off sensor	user conf.	★	✓	✓	✓	Wi-Fi	automatic weather adjustments customizable by zone, contractor portal for multi-site management, real-time alerts and notifications, built-in rainfall sensor, event logs and reports	rain, freeze, soil moisture, flow	✓	✓
HydroPoint	WeatherTRAK LC	✓	36	proprietary ET Everywhere Weather Data (public and private weather stations, NOAA)	current local weather and forecast from weather stations	✓	✓	✓	✓	✓	Cell	centralized cloud control for multiple management, alerts, 30+ customizable reports, over the air updates	rain sensor, flow sensor (with optional key)	✓	✓
Hydro-Rain	HRC 400 WiFi	✓	16	smart WeatherSense local weather data		user conf.	✓	✓	✓	✓	Wi-Fi	optional catch cups and irrigation audit input	rain/freeze sensor, flow or soil moisture sensor	✓	✓
H2OPro	H2OPro		8	local weather stations or user-defined local weather stations	weather station, no sensor	auto.					Wi-Fi	flow monitoring, alerts, restrictions	rain/flow	✓	?
Intrnl	Climate Logic proprietary plug in for Intronix Kwik-Del, Rain-Del, Total Control and MC-E Controllers	✓ with Climate Logic	12	on-site sensor	rain sensor, no rainfall measurement	user conf.		✓			RF plus	SMART logic allows auxiliary wireless control up to 250 wireless relays	Climate Logic (rain/freeze)	✓	✓

★ "discovery" mode | + same number as host controller | ● yes, if more than one airport station is to be subscribed | ◆ yes, backup mode from panel | ○ with Toro soil moisture sensors

The Homeowner's Guide to Landscape Irrigation

Most homes have irrigation systems installed to provide supplemental water to the landscape when rainfall is insufficient. There are important benefits to having an efficient irrigation system:

- It provides a healthy landscape.
- It targets water to the intended plant material.
- It creates a softer environmental footprint by saving on herbicides, insecticides and fertilizers.
- It limits water runoff from landscapes.
- It saves money on utility bills.

Automatic irrigation systems deliver the right amount of water at the right time when properly programmed and maintained. Efficient irrigation systems

- have watering schedules that account for climate and site conditions, such as: slope, plant type, sprinkler type, soil type and sun exposure.
- operate at correct water pressures according to manufacturer specifications



2. **Keep soil healthy.** Before planting, have the soil tested by the Cooperative Extension Service in your state. When planting, turn and cultivate the soil and add soil amendments to improve soil moisture infiltration and retention. This practice results in healthier plants with strong root systems that require less



For more information on the SWAT awards
and this year's winners, go to
www.swatirrigation.org

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Working Group Contact Information

PWG Board Chair: Jessica Ahlstrom, City of Bozeman Water Conservation Specialist
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PWG IA Staff Liaison: John Farner, Irrigation Association Industry Development Director
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TWG Board Chair: Jeff Lee, Town of Gilbert Water Conservation Specialist
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TWG IA Staff Liaison: Mike Temple, Irrigation Association Technical Program Director
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Thank you!

Questions?

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www.swatirrigation.org

703.536.7080

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