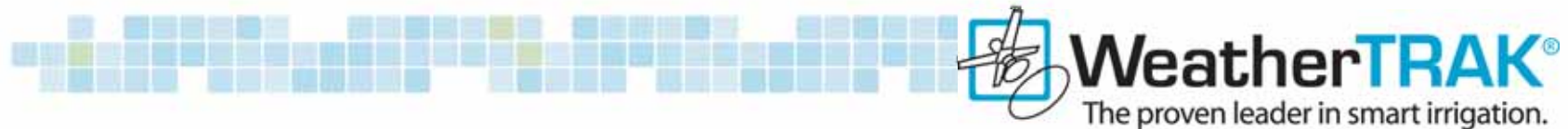


Maintenance-free ET Delivers Sustained Landscape Water Efficiency and Lowers True Cost of Ownership

Dan Dansereau
Senior Scientist
HydroPoint Data Systems, Inc.

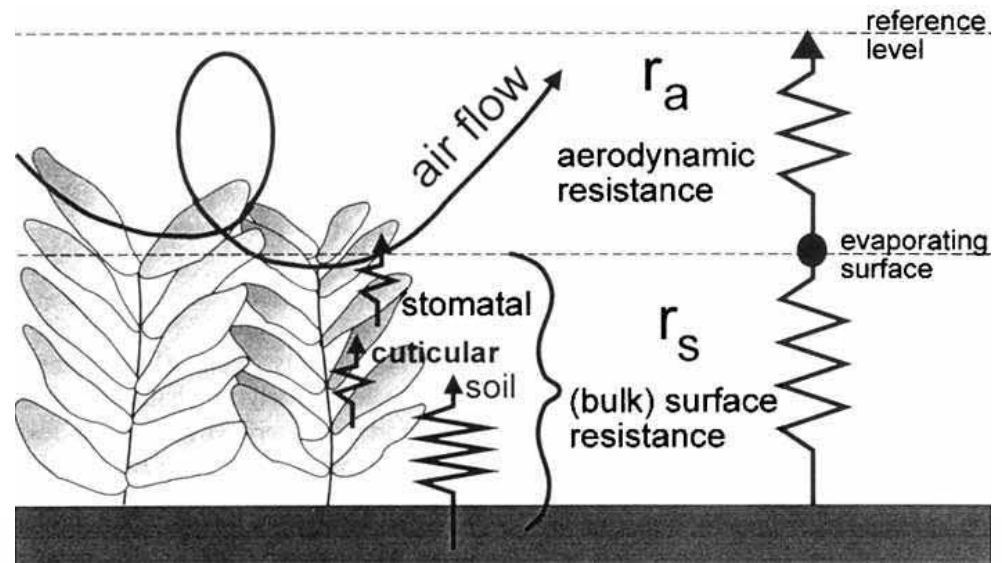
International Water Technology Conference
April 2, 2007



Maintenance-free ET Delivers Sustained Landscape Water Efficiency and Lowers True Cost of Ownership

ET: the gold standard in determining efficient water usage for *any* application

- Penman-Monteith most widely used
- ASCE standardization
- All weather factors considered
- Crop coefficient feature enables plant-specific scheduling adjustment



Maintenance-free ET Delivers Sustained Landscape Water Efficiency and Lowers True Cost of Ownership

Water efficiency: more critical than ever

- Resources increasingly constrained
- Rates on the rise 27% in the U.S., 32% in the U.K., 45% in Australia, 50% in South Africa and 58% in Canada
- Translates directly to energy conservation
- Waste = runoff, which threatens water quality

More efficient water usage conserves energy, reducing reliance on the carbon fuels that lead to global warming.

In California, water needs consume:

- **19% of electricity**
- **30% of natural gas**

Source: California Energy Commission

Maintenance-free ET Delivers Sustained Landscape Water Efficiency and Lowers True Cost of Ownership

Widely adopted practices for gathering ET

- Weather stations
- ET service providers

Yesterday's attitude

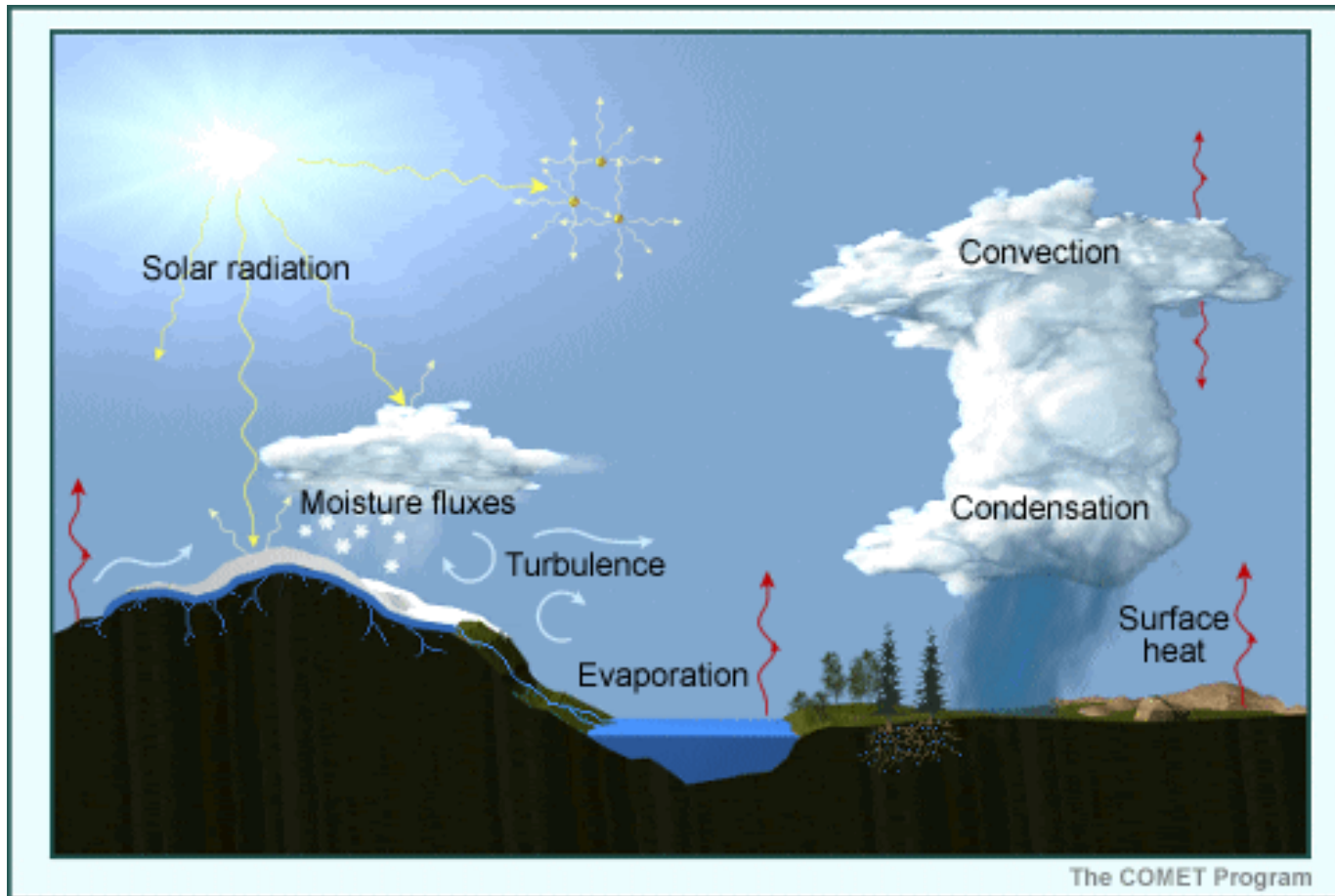
- These are competing methods

New understanding

- Compile more data from more sources
- Model and validate the data exhaustively for continuous reliability



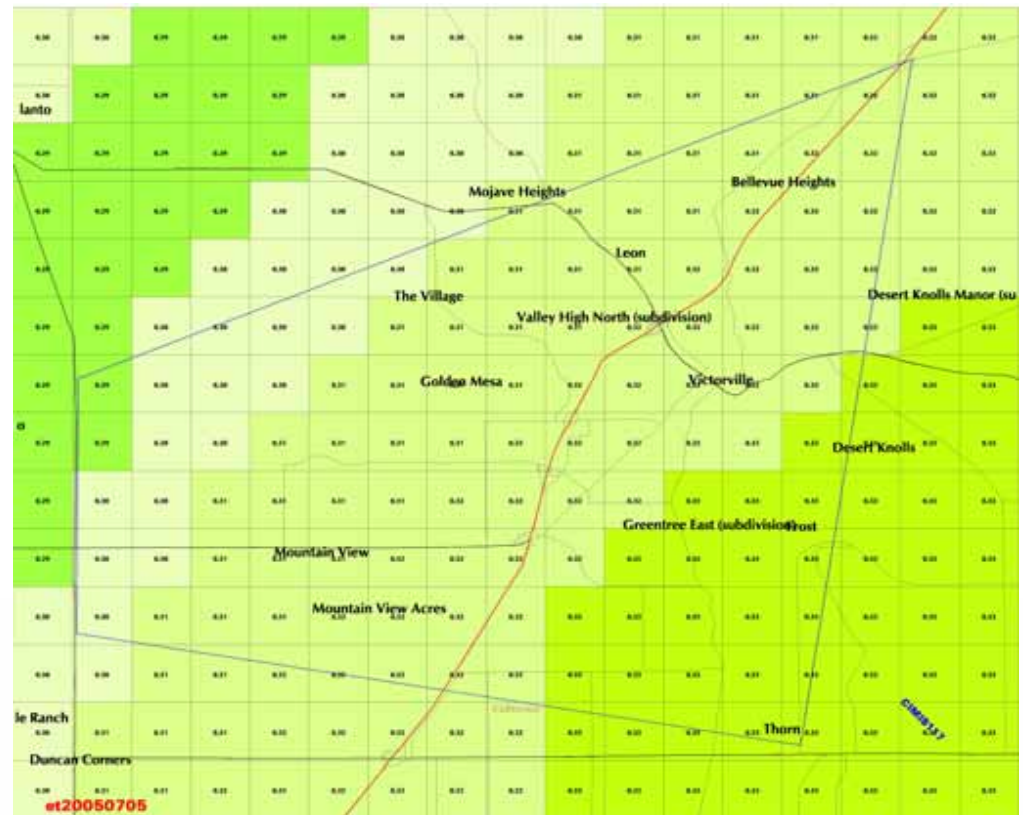
Maintenance-free ET Delivers Sustained Landscape Water Efficiency and Lowers True Cost of Ownership



Maintenance-free ET Delivers Sustained Landscape Water Efficiency and Lowers True Cost of Ownership

Truly smart irrigation is accurate & maintenance-free for end users

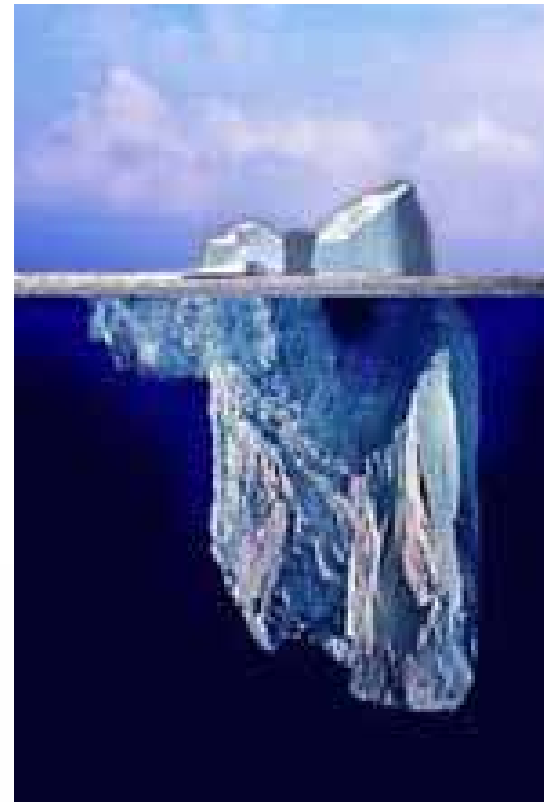
- Avoid site-specific errors and failures
- Ensure microzone-level accuracy with more data vectors
- Correct or validate weather station data
- Makes ET affordable for everyone



Maintenance-free ET Delivers Sustained Landscape Water Efficiency and Lowers True Cost of Ownership

Advantages to maintenance-free ET

- Sustain landscape water efficiency
- Avoid hidden costs:
 - Labor
 - Maintenance
 - Vandalism
 - Damage caused by erroneous data
- Lower true cost of ownership



Total costs
Hidden costs

ET Everywhere Service Overview

Daily tracking of 10,000-20,000 weather stations globally

- NOAA, CIMIS and numerous other sources

Local weather modeled down to .01 Long., Lat., squared

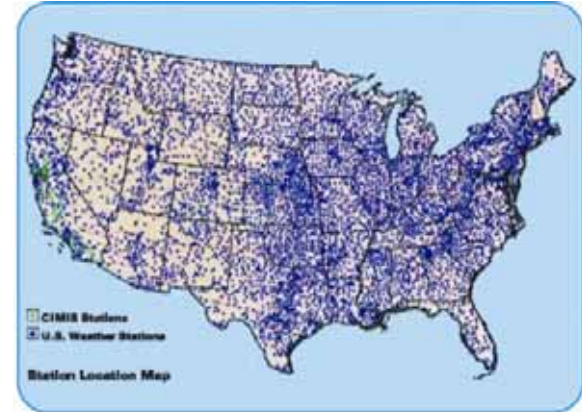
- No reliance on single station or sensor
- All weather factors reported by weather stations

ET updates transmitted to controllers each day via wireless network

- No wires or sensors to install or maintain

Irrigation schedule automatically adjusts

- Increases or decreases minutes, cycles or days based on actual landscape needs



Case Study: master developer plans for sustainability with water usage analysis

Master developer using ET Everywhere to:

- Develop an intelligent design plan that meets growing conservation demands
- Anticipate water footprint
- Eliminate landscape water runoff
- Demonstrate sustainable water efficiency to local agencies

How it works:

- ET Everywhere service modeling projects the water requirements of a multi-zoned development including homes, golf courses, retail and agriculture



Case Study: City of Newport Beach stops urban runoff at its source

Goal:

Protect areas of special biological significance by reducing residential runoff pollution from inefficient irrigation



Strategy:

- Secure grant funding
- Target high-runoff areas
- Provide 500 free smart controllers & services

Results:

- 300 controllers installed
- Average single billing cycle savings/home: 3,919 gallons (37%)



ET Everywhere: Key Study Results (22 total)

- 1st Irvine Study in 1998: 20% savings, 97% customer satisfaction
- 2nd Irvine Study (EPA) in 2001: 71% runoff reduction
- LADWP – 95% savings of potential water waste
- Santa Barbara – 26%-59% savings
- Colorado State – Crop coefficient study
- Bend, Oregon – 41% savings in city landscapes
- University of Nevada, Reno – 27% savings compared to contractor
- University of Nevada, Las Vegas – 22% savings
- Utah Dept. of Water – 14%-82% savings
- University of Arizona – 25% savings to date
- University of Florida – ET Everywhere within 2% over 1-year period



ET Everywhere for Everyone

Like energy, water requires rigorous resource management:

- Multi-source reliability
- Independent validation via 22 studies
- Standard adopted by industry and 50 cities/agencies

Maintenance-free ET enables water purveyors to:

- Determine dynamic water needs
- Manage peak loads
- Achieve efficiency & water quality objectives
- Beautify cities
- Avoid dust bowl scenarios (which exacerbate drought)

Annual savings when every CA residential landscape is watered efficiently:

- 400 billion gallons of water
- 8 billion kW of electricity



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