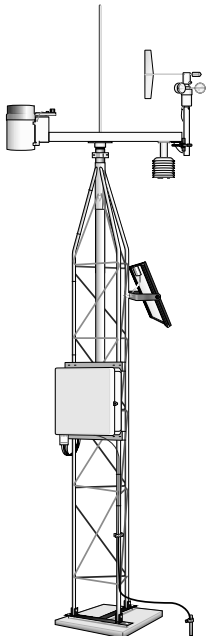


# ET<sub>0</sub> & Weather

[www.campbellsci.com/et](http://www.campbellsci.com/et)

## Benefits of Our Stations

1. Provide accurate hourly and daily summaries of water needs.
2. Calculate ET<sub>0</sub> on-board using Penman-Monteith equation.
3. Transmit data to a computer and/or a voice-message to a phone.
4. Long-term operation from batteries and solar panels. Can also be recharged by AC power.
5. Software facilitates programming, data retrieval, and data display.
6. Preconfigured or custom stations are available.
7. Operate reliably in harsh environments.
8. Easy to install and maintain.



*MetData1 ET/Weather Station (preconfigured)*



*Our stations are known for their precision measurement capability, rugged construction, wide operating temperature ranges, versatility, research-grade accuracy, and low power consumption.*

Campbell Scientific measurement and control systems are used worldwide for climatological, agricultural, and meteorological monitoring. Our evapotranspiration monitoring stations provide an accurate method of identifying crop water needs, helping to eliminate under- and over-watering mistakes, which in turn saves money and improves quality of turf grass and other crops. Our stations are used by golf courses, commercial farms, municipalities, utilities, and home-owner associations to help manage irrigation scheduling while promoting sound water and groundwater management. Potential evapotranspiration (ET<sub>0</sub>) estimates are based on turf grass, but stations can be programmed with crop coefficients to estimate the water needs of other crops.

ET stations can also provide information for other uses. Data relevant to integrated pest management, disease prediction, growing degree days, and frost forecasting are easily obtained. Stations can also report general weather data such as average wind speed and direction, maximum wind gusts (useful for fungicide, pesticide, and fertilizer applications), maximum and minimum temperatures, and total solar radiation.



*Irrigation needs of wheat and other crops can be estimated using crop coefficients.*

We offer both preconfigured and custom ET stations. Our preconfigured stations feature a standard suite of pre-wired sensors, quick-and-easy installation, and simplified programming. These stations provide continuous monitoring of rainfall, solar radiation, relative humidity, temperature, and wind speed and direction. Using data gathered from these weather measurements, an on-board program calculates potential evapotranspiration using the Penman-Monteith equation and a turf grass reference. The resulting output provides hourly and daily assessments of water needs.

While these stations are preconfigured, they are flexible enough to accommodate additional sensors or other ETo calculation algorithms. For example, soil moisture sensors can be added to provide additional water management information, or soil temperature sensors can be used to estimate pest emergence. We also offer a low-cost, preconfigured station that calculates ETo from a reduced set of sensors.

Custom stations, typically used for research, are configured from a wider selection of components, allowing greater flexibility. These stations can be configured to measure almost any number or type of sensor and can use many different types of communications options.

## Communications

Data from our stations can be transmitted to and displayed on a computer using a variety of options including:

Telephone	Radio	Internet connection
Cellular phone	Short haul	Storage modules
Voice-synthesized phone	Satellite	Card storage modules

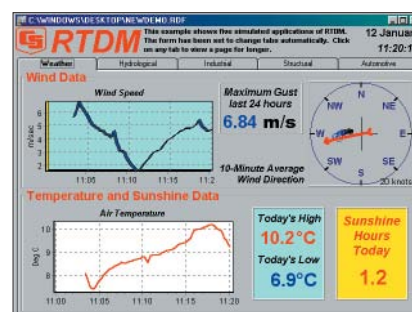
Voice-synthesized phone modems that can give you a verbal report of conditions are commonly used with our ET stations. For example, stations at golf courses can be used not only for water management, but to allow customers to call for a real-time verbal report of weather conditions at the course. These stations can also transmit data to a computer.

## Software

Our PC-based support software simplifies the entire weather monitoring process, from programming to data retrieval to data display and analysis. Our software can automatically manage data collection from station networks or individual stations. Robust error-checking ensures that your data arrives uncorrupted. We can even help you post your data to the Internet.



*Our stations' low-power use allows long-term, unattended operation from rechargeable batteries—recharged by either AC power (if available) or solar panels.*



*Our RTDM software provide real-time, graphical display of data.*