



Fire Weather

Off-the-Shelf Fire Weather Stations or Custom Instrument Systems



Campbell Scientific builds automated weather stations specifically for fire weather. Our weather stations are known for their versatility and reliability, even in harsh environments. These features make them ideal for fire weather monitoring. Several configurations of our fire weather stations are available, but all of our fire weather stations can monitor, record, and transmit meteorological data relevant to fire danger prediction.

The versatility of our fire weather stations allows them to serve more than one purpose. Our equipment has been used for fire research during prescribed burns, and monitored conditions near fire lines. A suitably sited fire weather station could also be used for avalanche forecasting in the winter or serve as a year-round hydrological monitoring station with the addition of a water-depth sensor.

Sensors used in Fire Weather Stations

Our fire weather stations are equipped with a suite of high quality meteorological sensors for monitoring wind speed, wind direction, precipitation, air temperature, and relative humidity. Sensors to measure fuel moisture, fuel temperature, soil water content, soil temperature, and solar radiation can also be added to a fire weather station. Campbell Scientific dataloggers can interface to many sensors with different output types, and can measure large numbers of sensors.

Telemetry

Data can be transmitted over a variety of telecommunication options, including satellite, telephone, cell phone, and

radio. Read our [overview of communications](#) options or see what [communications products](#) we offer.

Quick Deployment Fire Weather Systems

Our Quick Deployment (QDP) Systems are ideal for prescribed burns or other temporary installations. Customers can set up the station in as little as 5 minutes—without tools. Each QDP station is preprogrammed to monitor wind speed and direction, air temperature and relative humidity, rainfall, barometric pressure, solar radiation, and lightning strike count and distance.

Permanent Weather Stations

Campbell Scientific provides a wide selection of sensors and data transfer peripherals for configuring a custom station that matches the exact requirements of your application. Our fire weather stations feature simplified installation and operation with a standard suite of sensors, a prewired datalogger enclosure, color-coded sensor connectors, and a fixed program in the datalogger. Custom weather stations are configured from a wider selection of sensors and data transfer peripherals, allowing for greater flexibility in matching an application's exact requirements. Permanent fire weather stations typically use 20-foot instrumentation towers. 10- and 30-foot instrumentation towers and 10-, 15-, and 20-foot tripods are also available.

Dataloggers for Fire Weather Stations

Our measurement systems are based around programmable dataloggers that measure the sensors, then process, store, and

transmit the data. We offer a family of rugged, reliable dataloggers, but the CR1000 is usually suitable for fire weather applications. Our dataloggers have programmable execution intervals, wide operating temperature ranges, on-board instructions, and ample input channels for commonly used sensors. Our dataloggers interface directly to most sensors, eliminating external signal conditioning.

Data are typically viewed and stored in the units of your choice (e.g., wind speed in mph, m/s, knots). Measurement rates and

data recording intervals are independently programmable, allowing calculation of 15-minute, hourly, and daily data values from 1-minute or 1-second measurements, for example. Conditional outputs, such as rainfall intensity and wind gusts, can also be recorded. The program can be modified at any time to accommodate different sensor configurations or new data processing requirements. If needed, channel capacity can be expanded using multiplexers, including a model designed specifically for thermocouples.

Quick Eye

Remote Location Image Collection



The Quick Eye system is a remote observation station designed perfectly for environmental monitoring in areas that are too dangerous or too remote to monitor manually. Commonly used in fire weather and hydrology applications, it's quick-deploy design and ultra-low power capability make it ideal for data collection in any environment.

Images and video collected are transmitted over cellular modem, providing your team with complete situational awareness of conditions at all times. Quick Eye comes with build in IR LEDs for night shots, and can be completely customized to include options such as:

- › camera pan/tilt,
- › hemispherical image capture,
- › weather-sensing instrumentation (with the inclusion of a datalogger), and
- › alternative communication options.

Quick Fire

Remote Automated Fire Weather Station



Our Quick Fire Remote Automated Fire Weather Station (RAWS) is ideal for prescribed burns or other temporary installations when time is of the essence. We built this system to be quick and nimble - each station can be setup by a single person in less than 3 minutes without any tools or technical expertise.

The Quick Fire comes pre-programmed to output key fire weather indicators including;

- › Fine Fuel Moisture Code (FFMC)
- › Duff Moisture Code (DMC)
- › Drought Code (DC)
- › Initial Spread Index (ISI)
- › Buildup Index (BUI)
- › Fire Weather Index (FWI)
- › Fire Danger Code (FDC)

GRWS100

General Research-Grade Weather Station



Mid-level, low power, portable weather station that provides general meteorological measurements with the flexibility to be adapted to a wide arena of weather based applications.

This is a portable weather station with a tiltable mast. This station provides basic weather station measurements and can calculate many related weather parameters such as evapotranspiration, growing degree days, wind chill, dew point, and more. The expandability of this system provides the flexibility to add sensors, control devices, and telecommunication options to enhance an existing research project or be altered to meet the needs of a new project.

NB. Image shown is for US equivalent station and features a different rain gauge to that supplied in Europe

For comprehensive details, visit: www.campbellsci.ca/fire-weather



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