

# Road Weather

[www.campbellsci.com/road-weather](http://www.campbellsci.com/road-weather)

## Benefits of Our Systems

1. Customer-owned data; modify and redistribute data without additional costs.
2. Maximum flexibility; choose the sensors and telemetry that meet your exact needs.
3. NTCIP compliant.
4. Web-based software provides management of data collection and display of data and alarm notification.
5. Non-proprietary/open architecture.
6. Low cost.
7. Proven reliability in harsh weather conditions.
8. Low power consumption allows remote operation without AC power.



*ESS Remote Processing Unit*

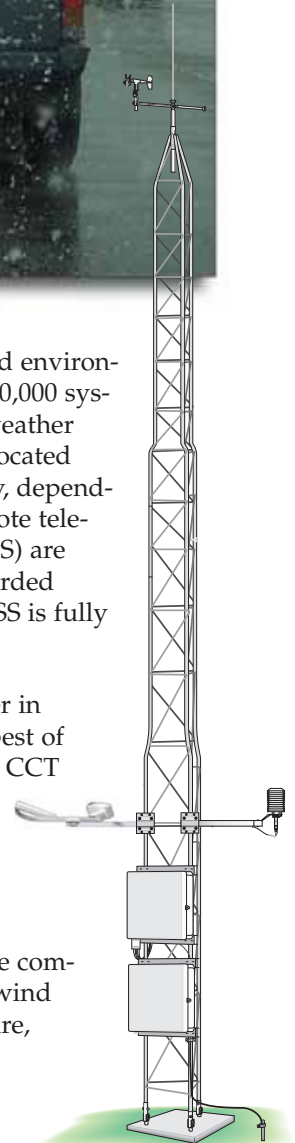


Campbell Scientific, Inc. (CSI) has designed and manufactured environmental monitoring and control systems since 1974. Over 100,000 systems have been fielded, most of which have been configured as weather stations. Many of these are deployed in the harshest of settings, located literally from Pole to Pole. Our equipment is known for flexibility, dependability in hostile environments, precision measurements, and remote telecommunication options. CSI's Environmental Sensor Stations (ESS) are robust, reliable weather stations that capitalize on our highly regarded electronic design experience and manufacturing expertise. The ESS is fully NTCIP compliant.

CSI also brings to the RWIS industry the new concept of Customer in Control Technologies™ (CCT), permitting customers to specify "best of breed" hardware and PC software, including products from other CCT vendors. As a result, customers can benefit from customized economical alternatives to older generation, "One Size Fits All" PC hardware-based product offerings.

## Typical Configuration

Typical systems include tower, RPU, two road sensors, and remote communication hardware, as well as sensors for the measurement of wind speed and direction, air temperature, humidity, barometric pressure, solar radiation, and precipitation.



## Hardware

### *Lufft Intelligent Road Sensor*

- Road temperature (with up to two additional sub-surface temperature measurements, optional)
- Residual salt content and calculation of freezing temperature
- Road surface condition—dry, moist, wet, ice, snow
- Water film level



*Intelligent Road*



*Radar Rain*

### *Lufft Radar Rain Sensor*

- Maintenance free
- Total precipitation
- Differentiation between rain and snow

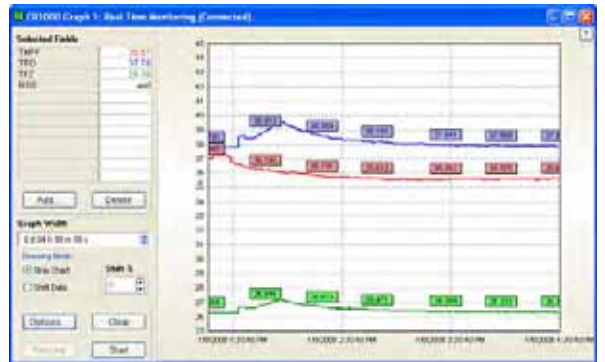


*Lufft road sensors in-situ measured by CSI RPU in Quebec, Canada.*

## Software

### *LoggerNet Datalogger (RPU) Support Software*

LoggerNet is a full-featured software package based on a server application and several client applications. LoggerNet's open architecture allows a customer to directly modify RPU application programs or to develop new custom instruction sets entirely under customer control. LoggerNet collects and archives NTCIP data and camera images on demand or by schedule (including diagnostic information about the ESS hardware and software) at the ESS or remotely via a number of telemetry options. Telemetry options include land line, cell, LOS RF, and satellite. All collected data may be exported to second-party analysis packages. Retrieved data is owned by the customer and may be redistributed to other users with no obligation to CSI.



*LoggerNet Software provides programming, data retrieval, and graphing capabilities.*

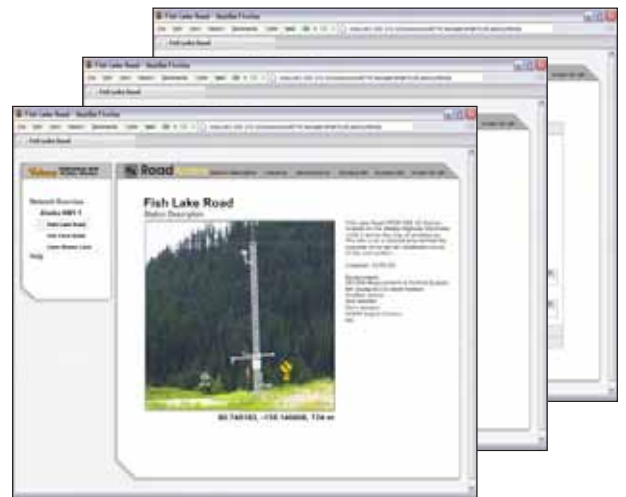
### *RTMCP Pro Real Time Monitor & Control Software*

RTMCP Pro is used to create custom displays of real-time data and camera images. It provides digital, tabular, and graphical data display objects, as well as alarms. A customer can combine data from multiple ESS/RPUs on one display. Complex displays can be organized on multiple tabbed windows.

Road Aware™ is a base project file for use within RTMCP Pro, optimized for RWIS applications. It may be replicated or expanded under customer control to add a larger number of ESS stations to a network or to increase functionality and customization of data displays and display layout.

### *RTMC Web Server*

RTMC Web Server converts real-time data displays into HTML files, allowing the displays to be shared via an Internet browser.



*RTMCP Pro provides online access to road-weather data.*