MOBILE WEATHER STATIONS

Mobile Weather Monitoring Options for Professionals in Industry, Government, and Public Safety

Mobile Command Posts with MX500™ Vehicle-Mount weather stations allow for extensive air quality and weather monitoring for the Texas Commission on Environmental Quality

Unlike fixed-base weather stations, mobile versions can be transported to different locations, allowing users to acquire meteorological data in varied or changing environments. This can be critical for first responders, work crews, or researchers who require accurate, on-site weather information for analysis and decision-making.

Some Applications of Mobile Weather Stations

Mobile weather stations serve a variety of critical functions across multiple industries, including:

- Outdoor Work Crews – Monitor on-site for heat stress or extreme cold.
- Emergency Response – Optimize situational awareness to ensure safety of crew and public.
- Military Operations – Support tactical decision-making based on environmental conditions.
- Outdoor Events & Sports – Assist planning and safety at races, concerts, and other outdoor gatherings.
- Environmental Research – Data collection to analyze the impact of weather conditions.

Professional Mobile Weather Monitoring solutions fall into two categories:

- Portable Weather Stations
- Vehicle-Mount Weather Stations

(Note: If you are looking for an inexpensive handheld weather monitoring device, check out Kestrel.)

Columbia Weather Systems

Orion Nomad™ Portable Weather Station for Gresham OR HazMat Team

Long Beach Fire Department's Mobile Command Center features a Magellan MX500 Weather Station

A panel mount Weather Display on the interior of the Mobile Command Center

PORTABLE WEATHER STATIONS

Popular with HazMat teams and environmental researchers alike, portable weather stations offer a rapid-deployment option for short-term on-site weather monitoring.

Key Features:

- rugged all-in-one met sensor transmitters,
- quick installation on a telescoping tripod mast,
- battery power for sensor and communications,
- all contained in a durable carrying case with wheels.

CWS offers portable weather station models in both Wireless and Data-logging Portable Weather Station configurations. Wireless transmitters offer continual real-time weather monitoring from a "remote" location, while Datalogging systems record measurements on-site, over a period of time, which can be downloaded in a data dump for later analysis.

Additional information about how these work in accordion folders. Wireless Portable Weather Stations: Wireless transceivers (900 MHz) provide LOS communication. They transmit data to any CWS monitoring options including your computer with WeatherMaster Software, a standalone Weather Display console, and/or the Weather MicroServer for network integration.

Datalogging Portable Weather Stations: A Weather MicroServer stores data locally.

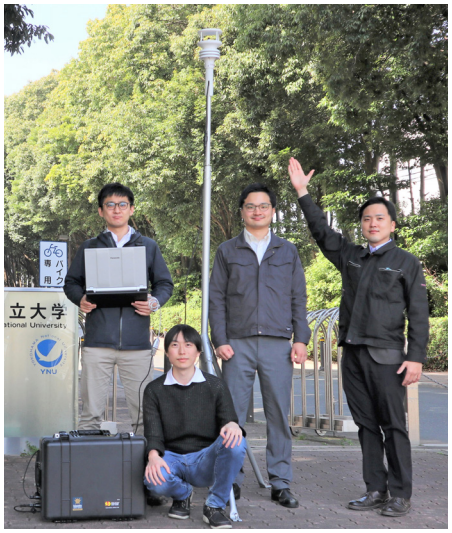
- 1-minute interval for up to one year of data retention
- 1-second logging intervals for shorter-term, higher resolution data collection
- Web-based dashboard for monitoring, configuration, and data export
- Weather-hardened ethernet port on carry-case for easy data retrieval either via laptop on-site or back at HQ following deployment

VEHICLE-MOUNT WEATHER STATIONS

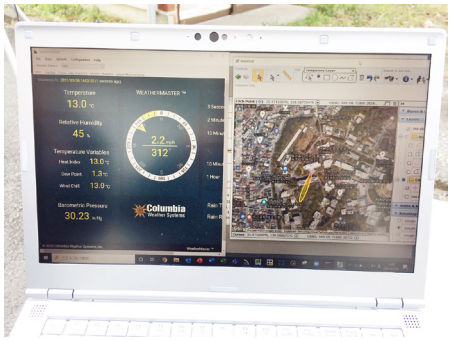
Vehicle-Mount Weather Stations provide meteorological data monitoring for mobile apparatus operations such as Incident Response, Command and Control (LDV), and Environmental Monitoring (TexasDEQ).

Key Features:

- Internal **met monitoring** components such as a Weather Display console permanently mounted in the vehicle. Options include WeatherMaster software and Weather MicroServer web-based interface.
- **Telescoping mast** affixed to the exterior of the vehicle for sensor deployment.
- All-in-one **weather sensor** with compass and GPS, stored in a compartment or protective case for quickly deployment on-site.



Yokohama National University students with a Magellan MX™ Portable Weather Station used for plume modeling.



Plume modeling utilizing weather station data with ALOHA, transferred to Google Earth through Marplot. (Photos courtesy of Toyoaki Nakarai)

OPERATIONAL BENEFITS

Whether Portable or Vehicle-Mounted, mobile weather stations are quick to set up and, within minutes, can:

- Transmit real-time data for dashboard monitoring and alarm notifications for weather extremes
- Automatically record met data for decision-making, analysis, and reporting
- Transmit data to third-party applications such as Weather Underground, CAMEO/ALOHA and CERES for plume modeling and situational awareness

THE BOTTOM LINE

Conditions at an incident or work site may not match forecast or reported data elsewhere.

There's no substitute for immediate, accurate, on-site weather data.

For professionals who depend on precise meteorological data, professional mobile weather monitoring solutions provide the reliability and flexibility needed in dynamic operational environments.

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