

## AUTOMATIC WEATHER STATION MAINTENANCE: **REAL-TIME DATA IMPROVES WEATHER FORECASTING AND CLIMATOLOGY STUDIES**

### CHALLENGE

The frequency and severity of extreme weather events have increased over the last 30 years, making weather prediction a challenge.

Automatic Weather Stations (AWS) play a significant role in providing accurate and timely weather data to the Meteorological Service of Catalonia. Adasa's services improve the skill of weather prediction and strengthen resilience to the impacts of any adverse weather conditions.

Adequate maintenance procedures ensure the infrastructure's integrity, allowing AWS's to provide timely, reliable and high-quality data..



*Adasa serviced and provided predictive maintenance to more than 150 EMAs.*

### ADASA'S SOLUTION

Adasa **helped the Meteorological Service of Catalonia service more than 150 of its Automatic Weather Stations (AWS).** As part of our maintenance provision, our specialised technical staff checked enclosures, masts, sensors, data loggers, communication devices and more.

We carried out **inspections visits in both extraordinary and ordinary weather conditions.** Adasa staff performed onsite preventive maintenance while double-checking:

- All system configurations.
- Security.
- Sensors exposure conditions.
- Height of installation.
- Sensor conversion factors.
- Telemetry and performance.

We made routine communication checks, verified data acquisition intervals and performed quality control of data.

Our technicians calibrated sensors, solved problems due to dust deposition or frost/snow damage, always resolving incidents quickly and efficiently.

Where applicable, we produced a field form report of our intervention, with a data comparison of deployed AWS sensors against portable and traditional sensors.

The team checked parts and spares and any new materials — batteries, solar panels, data loggers, modems, sensors, and cables — restocked as back-ups in case of failures, theft or the need to recalibrate. All this maintenance ensured proper, continuous AWS operation.



*Adasa has enabled the continuous and constant reception of remotely generated data, 24 hours a day.*

## RESULT

Adasa's maintenance **services and upkeep of the AWS network guarantee continuous and consistent data** from remote locations, 24 hours a day, even in adverse conditions.

These include:

- Reliable data for weather observation and forecasting.
- Climatology studies.
- Weather risks assessments - torrential rain, snow avalanches, fires and more.
- Emergency response services and civil protection.
- Agrometeorology; irrigation, pests and diseases.
- Water resources management.
- Air quality diagnosis/modelling, and more.

## CLIENT

The Meteorological Service of Catalonia (SMC) is a public company ascribed to the Generalitat de Catalunya.

The SMC is responsible for the observation system and meteorological forecast in Catalonia and has an observation system consisting of more than 150 automatic weather stations and 4 C-band Doppler weather radars. The SMC is an associate member of the European Meteorological Society (EMS).

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