



MONITORING
SOLUTIONS



HydroTerra

Environmental Monitoring Specialists

WEATHER STATIONS

Solutions from HydroTerra

hydroterra.com.au

HydroTerra Weather Stations

Accurate, reliable weather data is critical for environmental compliance, operational safety, and day-to-day planning. HydroTerra supplies proven weather monitoring solutions for temporary or permanent deployment—ranging from compact all-in-one stations to research-grade and advanced telemetry-integrated platforms.

Why HydroTerra

- Real-time visibility with flexible telemetry options (cellular, satellite, Ethernet, LoRa)
- Rugged, low-maintenance equipment suited to remote and harsh environments
- Simple integration with PLC/SCADA, cloud platforms, web portals, and APIs
- Solutions that scale—from straightforward compliance monitoring to research-grade data capture

Ideal for: Construction, mining, agriculture, infrastructure, research, and industrial operations.

Choose the right station for your site

From entry-level all-in-one monitoring to advanced, research-grade sensing, HydroTerra helps you select a weather station that matches your compliance obligations, operational risk profile, and reporting requirements.

Here are three popular options—**entry, mid, and top tier**—plus telemetry solutions to put your environmental data to work in real time.



Entry level Option : Weathercom Automatic Weather Station

The Weathercom Automatic Weather Station is a compact, all-in-one weather monitoring system delivering accurate, real-time environmental data with built-in telemetry.

With seamless PLC, SCADA, and cloud integration, Weathercom enables smart, data-driven environmental management. Modular sensor attachments are available to optimise performance based on site-specific monitoring needs.

Key highlights

- Built-in telemetry and real-time environmental data
- Seamless PLC, SCADA, and cloud integration
- Modular sensor attachments to suit site-specific needs
- Fast deployment for temporary or permanent installations

The following meteorological parameters are supported. 0.1-100,000 $\mu\text{W}/\text{cm}^2$

ID	Parameter	Range	Resolution	Min detection	Working principle
OZWSD_1	Wind Speed	0-40m/s	0.1m/s	0.1m/s	ultrasonic
	Wind Direction	0-359 degrees	1 degree	1 degree	
OZRAIN_1	Rainfall	n/a	0.25mm	0.25mm	Tipping bucket
OZN_1	Ambient Noise	Up to 140dB	1dB	0.5dB	Capacitance
OZLI_1	Light Intensity	Up to 100,000 Lux	1Lux	1Lux	Photoconductivity
OZVLI_1	Visible Light	Upto 5000 Lux	0.1 Lux	0.1 Lux	
OZUV_1	UV Radiation	0.1-100,000 $\mu\text{W}/\text{cm}^2$	0.1 $\mu\text{W}/\text{cm}^2$	0.1 $\mu\text{W}/\text{cm}^2$	
OZTEMP_1	Temperature	-40°C to 125°C	0.01°C	-40°C	Solid state semiconductor sensing
OZHUM_1	Humidity	100% Rh	0.10%	0.10%	
OZPRES_1	Barometric Pressure	300-1100hPa	0.18Pa	300 hPa	

Snapshot of Weathercom specifications:

- Weight, Dimensions: 8kg, 36cm (H) x 33cm (W) x 20cm (D)
- Avg, power consumption 7 Watt (Varies with number of parameters)
- Power input: AC : External 110-240V AC, 50-60Hz or 60-Watt 24V Solar Panel
- Battery Backup: Up to 12 hours
- Communications: GSM (4G/5G), LoRa, LTE, NBIoT, Satellite, Wi-Fi, Ethernet, ModBus RS485 RTU/ TCP
- Installation: Pole Mount / Wall mount / Tripod



Mid level option: ATMOS 41 Gen 2 Weather Station

The ATMOS 41 Weather Station is a compact, research-grade weather station featuring 12 integrated sensors in a single solid-state unit. With no moving parts, the ATMOS 41 offers low-maintenance operation and high measurement reliability- ideal for remote and harsh environments. When paired with the HydroTerra DataStream telemetry system, it provides live data access, automated alerts, and long-term environmental trend analysis.

Key highlights

- 12 integrated sensors in a single solid-state unit
- No moving parts for low maintenance and high reliability
- Ideal for remote sites and harsh environments
- Pair with HydroTerra DataStream for live dashboards, alerts, and trend analysis



Parameter	Range	Resolution	Typical Accuracy
Solar Radiation	0 – 1750 W/m ²	1 W/m ²	±5% of measurement
Precipitation	0 – 1500 mm/h	0.017 mm	±5% from 0 – 1000 mm/h
Air Temperature	–50 to 60 °C	0.10 °C	±0.2 °C (sensor); ±0.6 °C typical
Relative Humidity	0 – 100%	0.10 °C	±2.0%
Vapor Pressure	0 – 47 kPa	0.01 kPa	±0.2 kPa typical below 40 °C
Barometric Pressure	1 – 120 kPa	0.01 kPa	±0.05 kPa at 25 °C
Wind Speed	0 – 60 m/s	0.01 m/s	Greater of 0.3 m/s or 6% of measurement
Wind Direction	0 – 359 °	1 °	±5 °
Tilt / Level Sensor	0 – 180 °	0.1 °	±1 °
Lightning Strike Count	0 – 65,535 strikes	1 strike	Variable with distance
Lightning Average Distance	0 – 40 km	3 km	Variable

Snapshot of ATMOS 41 specifications

- Weight & Dimensions: ~1.3 kg, 28–34 cm (H) × 10 cm diameter
- Operating Temperature: –50 to 60 °C
- Power Consumption: 8 mA typical during measurement (0.3 mA sleep)
- Power Input: 3.6–15 VDC continuous excitation
- Communications: SDI-12 and Modbus RS-485
- Cable Length: 5 m standard (up to 75 m custom)
- Connector Type: Select 3.5 mm stereo plug or M12 Connector
- Installation: Pole mount or tripod mount. Built-in leveling bracket

Operating Environment: Designed for continuous deployment in harsh climates



Top level Option: MaxiMet GMX-600 Weather Station

The MaxiMet GMX600 from Gill Instruments is a compact, all-in-one weather station designed for professional environmental monitoring applications. Utilising ultrasonic wind measurement technology, the GMX600 provides measurement of wind speed and direction, along with air temperature, relative humidity, barometric pressure, precipitation, solar radiation, and UV radiation. It also calculates derived parameters such as dew point, wind chill, and heat index internally. It also comes with a compass which is very helpful for correct weather station alignment.

Key highlights

- Ultrasonic wind measurement (no moving parts)
- Measures wind, temperature, humidity, pressure, precipitation, solar and UV
- Calculates derived metrics internally (e.g., dew point, wind chill, heat index)
- Integrated compass supports correct alignment during installation

Parameter	Range	Resolution	Typical Accuracy
Air Temperature	-40 to +60 °C	0.1 °C	±0.3 °C
Relative Humidity	0-100 %	0.10%	±2 % (0-90 %)
Barometric Pressure	20-120 kPa	0.1 hPa	±0.6 hPa
Wind Speed	0-70 m/s	0.1 m/s	±0.3 m/s
Wind Direction	0-360 °	1 °	±3 °
Precipitation (Tipping Bucket)	0-500 mm/hr	0.2 mm per tip	Varies by bucket size
Solar Radiation	0-1800 W/m ²	1 W/m ²	±5 %
UV Radiation	0-200 UVI	0.1 UVI	±0.5 UVI



Snapshot of Maxi Met GMX600 Specifications

- Weight/dimensions 0.8kg, 261mm (H) x 142mm(L) x 142mm(W)
- Operating temperatures: -35°C to 70°C (-40°C with heating option)
- Power consumption: 64mA at 12 VDC continuous (0.7mA eco-mode)
- Power input: 5-30 VDC (10-30 VDC for heated models)
- Communications: RS232, RS422, RS485, SDI-12, NMEA 0183, Modbus, ASCII
- Output rate: 1Hz, 1/min, 1/hr or polled mode
- Ingress protection: IP66 weatherproof enclosure
- Construction: UV-stabilised thermoplastic housing
- Installation: pole or mast mount 30-58mm diameter

Telemetry Options for Weather Stations

To get real-time data from your weather station, we offer add-on telemetry solutions. The Weathercom system comes with in-built telemetry and data hosting. For ATMOS 41 and MaxiMet GMX600, we offer our HydroTerra DataStream Telemetry system.

HydroTerra's DataStream Telemetry system is a configurable, IP-based remote monitoring platform for environmental and industrial applications. It combines robust field loggers with a cloud-hosted DataStream platform to collect, transmit, store, and visualise data from a wide range of sensors in real time. Designed for harsh and remote environments, the system supports multiple communications options (cellular, satellite, Ethernet, and LoRa), integrates with diverse instruments, and is widely used in mining, landfill, groundwater, and infrastructure monitoring projects.

Data from telemetered weather stations is sent to HydroTerra's DataStream cloud-hosted platform. This platform has the following functions:

- Receives data from the weather stations.
- Stores that data securely in a central environment.
- Makes it available for visualisation, reporting, alerts, and compliance records
- Allows access via a web portal and/or API



At-a-glance comparison

Option	Best for	Strengths	Telemetry
Weathercom (Entry Level)	Fast deployment, compliance and operational monitoring	All-in-one with modular add-ons; easy PLC/SCADA/cloud integration	Built-in telemetry + hosting
ATMOS 41 (Mid Level)	Low-maintenance, research-grade monitoring in harsh/remote sites	12 sensors; no moving parts; high reliability	HydroTerra DataStream (add-on)
MaxiMet GMX-600 (Top Level)	High-spec, all-in-one monitoring with advanced wind measurement	Ultrasonic wind; derived metrics; compass alignment aid	HydroTerra DataStream (add-on)

Marketplace & Rental



Product Sales

Most suitable equipment and consumables for customer applications

Rental Services

Short-term monitoring equipment supply

Workshop, Support & Training



Workshop

Scheduled maintenance, calibration services and repairs in HydroTerra's Workshop.

Webinars and Training

held regularly to facilitate education



Field Services

Site Collection



Undertaking field measurements and analysing collected samples in a lab



Site Data Management

Generating publishable quality coded data files of known provenance



Site Reporting

Reporting on the sites operational and environmental compliance



Monitoring Systems



System Design

Developing monitoring plan and monitoring system design



System Specification

Specifying measurement points, equipment choices and data reporting



System Supply

Sourcing best software, hardware, hosting and telco options



Configure and Test

On selected systems design, calibration and alarm setup



System Install

Building and installing monitoring and sampling systems onsite.



System Oversight

Overseeing the monitoring system to ensure measurements are being captured and reported.



System Maintenance

Implementing the maintenance programs scheduled and unscheduled needs.



System Training

Deliver training programs to site operators enabling in-house maintenance and reporting.