



40 years of expertise
in lightning detection
and thunderstorm risk
management

Press release

2026



MEMBER OF



FOR WEATHER SERVICES

Meteorage helps meteorological services improve strategies to reduce **lightning** and thunderstorm impacts.



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Our commitments:

- CREATE, DEVELOP AND OPERATE YOUR OWN **LIGHTNING SERVICE CAPABILITIES**.
- TRANSFORM **LIGHTNING DATA** INTO OPERATIONAL SERVICES THAT SUPPORT FORECASTING, EARLY WARNINGS, SCIENTIFIC RESEARCH AND PUBLIC SAFETY.



40 years of expertise in lightning detection, data analysis and operational risk management.

WE DEVELOPED THE FIRST LIGHTNING SERVICE PLATFORM:

CATS, for Computer Aided Thunderstorm Services, is Meteorage's software platform, developed since 1988. It was the first to automatically convert lightning real-time and historical detection data into actionable services for end-users, making Meteorage a pioneer in this field.

Today, CATS enables the production and delivery of tailored services adapted to each organization, company and activity sector, while also ensuring efficient management of users and system configurations.

CATS is used daily by Meteorage to serve several thousand end-users across Europe, as well as by national meteorological services, public authorities, infrastructure operators and international partners. It can allow organizations to build their own tailored lightning services.

At MTWE 2026, discover how Meteorage helps weather institutions turn lightning information into operational and scientific value.

For a long time, meteorological services were primarily judged on their ability to observe and forecast the atmosphere. Today, their remit extends far beyond that. They must: **strengthen early warning systems, support public policy, facilitate climate adaptation, increasingly provide value-added services or meet the growing needs of public and private users.**

Lightning data is one of the most relevant operational indicators available to forecasters. Combined with radar and satellite observations, it improves the monitoring of convective activity, supports severe-weather analysis and strengthens warning services.

→ Lightning directly affects **public safety, service continuity, performance and economic development.**

An integrated approach combining tools and governance is essential to improve risk prevention and management. Effective prevention therefore depends on the combination of reliable and accurate observations, understandable safety guidance and well-prepared prevention procedures.



+ 5,5 million*

lightning flashes
detected everyday worldwide

*(Source: GLD360, Vaisala)

Lightning risk management is critical to protect people, infrastructure, and economic activities.

Our support at every stage of the project

Meteorological services face different challenges depending on their level of technical resources and strategic objectives.

Some organisations are looking for ready-to-use lightning services to strengthen their forecasting and warning capabilities. Others aim to develop their own lightning service ecosystem, generate additional value from lightning data or progressively build a national lightning capability.

Our objective is not only to provide solutions, but also to help organisations develop sustainable capabilities and maximise the value generated.

LIGHTNING SERVICES

Source of lightning data:
Europe: Meteorage Network
Worldwide: GLD360

Ideal for organisations seeking immediate operational benefits without additional infrastructure requirements. High-resolution lightning detection, warning services, real-time monitoring, post-event reports, and specialised services can be deployed rapidly to support forecasting activities and public safety missions.

SOFTWARE PROVIDER CATS

Deploy CATS, Meteorage's software platform, to collect, process and deliver lightning services.

TURNKEY SYSTEMS CATS + LIGHTNING DATA

Implement a complete operational solution combining software and lightning data (Meteorage Network or GLD360).

TECHNICAL ASSISTANCE

A support from project definition to operational deployment: management, system architecture, network deployment, operational implementation, service definition, integration into existing workflows. This assistance helps organisations reduce project risks and accelerate operational readiness.

LIGHTNING NETWORK DEPLOYMENT

Build or extend a lightning detection capability. Meteorage can support the installation of Vaisala lightning detection systems, including: site surveys, network design, sensor deployment, central analyser installation, software configuration, operational validation.

NETWORK OPERATION & MAINTENANCE

Once deployed, Meteorage can support customers through: preventive and corrective maintenance, network monitoring, performance assessment, SLA management and quality control.

TRAINING

Develop internal expertise and strengthen operational capabilities. Meteorage provides training programmes adapted to meteorologists, forecasters, technicians and operational teams.

- lightning science and atmospheric electricity
- CATS administration and service management
- operational uses of lightning information
- best practices for lightning risk prevention

Knowledge transfer is a key component of every partnership to strengthen local autonomy and long-term sustainability.

From lightning data to operational decisions, scientific insights and societal benefits.

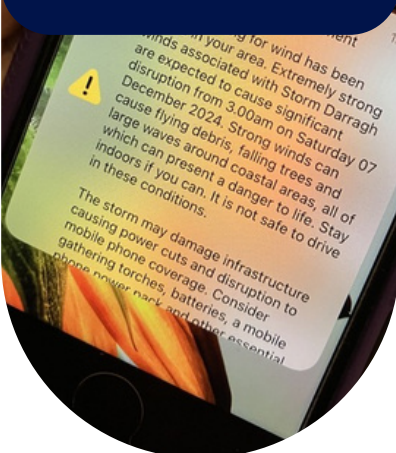
Access to lightning information creates value at several levels. It strengthens real-time operations, enriches scientific knowledge and enables meteorological services to develop solutions for a wide range of public and professional users.

- a) A progressive understanding of lightning activity
- b) The development of a national strategy
- c) The training of operational teams
- d) Explore revenue-generating services
- e) A step-by-step pathway toward high-precision systems



Improve early warning systems

→ Real-time lightning data (available within seconds) significantly enhances the speed and accuracy of the alerts.



Public safety

→ Because lightning is a direct and sudden hazard, better monitoring and alerting can quickly reduce casualties, especially in rural and exposed populations.



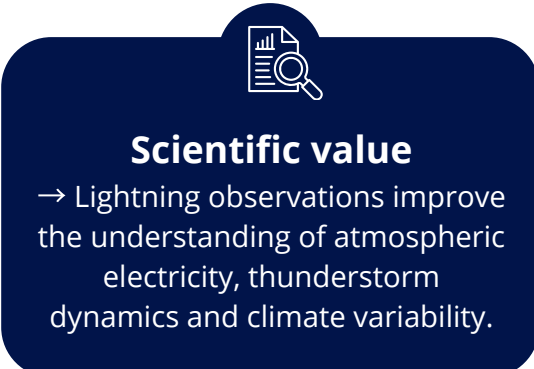
Infrastructure resilience

→ The same lightning data supports several public missions and professional services, helping operators understand the presence, location and evolution of electrical activity, allowing action to be aligned with the actual hazard.



Scientific value

→ Lightning observations improve the understanding of atmospheric electricity, thunderstorm dynamics and climate variability.



Accelerate capacity building

→ Sustainable services require trained teams capable of understanding the data, configuring solutions, supporting users and assessing operational performance. Meteorage combines technology with training, knowledge transfer, technical assistance and long-term support.



CATS: A SOFTWARE SOLUTION

Meteorological services need to deliver information that is not only scientifically reliable, but also timely, accessible and actionable. CATS can contribute to this objective.

Whether your goal is to enrich existing services or build new operational capabilities, CATS provides the tools required to transform lightning data into meaningful outcomes:

- For developing lightning capabilities: take advantage of CATS and provide your users with services tailored to their requirements.
- For established weather services: feed your own tools with high-resolution data or long range lightning data.

LIGHTNING OBSERVATIONS

Reliable real-time observation and historical datasets (sensor networks, satellites, etc.) provide thunderstorm electrical activity data.

→ CATS

Meteorage platform collects, processes and transforms lightning data into configurable operational services.

→ OPERATIONAL SERVICES

Monitoring interfaces, automated warnings, post-event reports, climatology, statistics and APIs make lightning information usable within different professional workflows.

→ CREATE VALUE: END-USERS

Civil protection authorities, emergency services, aviation stakeholders, energy companies, infrastructure managers, insurers, researchers and other professional communities receive services adapted to their specific requirements.

→ Can implement preventive measures, protect populations, strengthen service continuity and improve resilience.

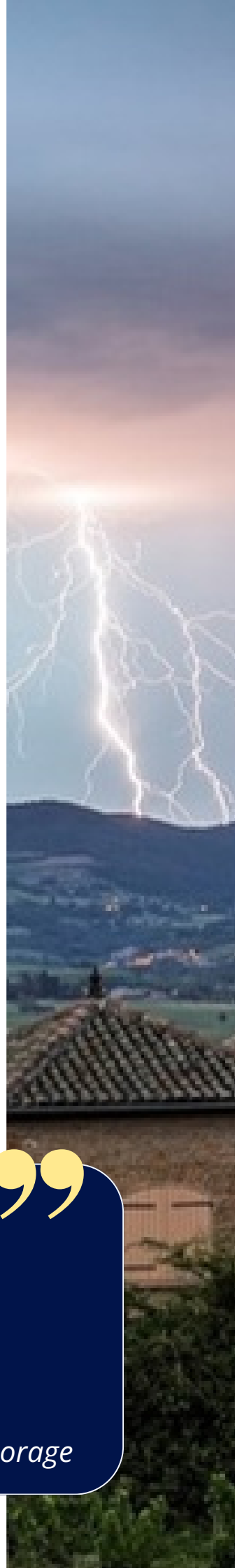
= Public protection

The objective is to help meteorological organisations create and operate a sustainable ecosystem of lightning services.



The last mile is where meteorological information becomes operational value. CATS enables weather services to move from observing lightning to delivering services tailored to their users.

— Stéphane Pedeboy, President, Meteorage



CATS: Collect. Process. Deliver.

ONE PLATFORM. MULTIPLE SERVICES.

Real-time monitoring

CATS provides observation interfaces for monitoring lightning flashes and convective cells in real time.

The platform helps operational teams and customers follow the spatial and temporal evolution of an event.

Thanks to “lightning jump” (sudden increase in lightning density within a cell), the most dangerous thunderstorms can be identified in time. You can then transmit this key information to disaster management services and other institutional actors who need it, such as air traffic control. Automated thunderstorm alarms can also be broadcast directly to the populations concerned, fulfilling the UN objective of [EW4All \(Early Warnings for All\)](#).

LIGHTNING DATA



Configurable warning services

Surveillance areas and operational parameters can be configured according to the application and user requirements. The platform supports the mass dissemination of warning messages, enabling information to reach multiple users and organisations.

Lightning activity reports

CATS can produce lightning activity reports on demand or automatically. These reports can support the assessment of an incident, the analysis of a suspected lightning-related event and confirm the origin of an insurance claim.

Lightning statistics and climatology

The platform can produce statistical indicators and maps for grids, administrative entities, sites or specific infrastructure. Available outputs include information such as lightning density and intensity, supporting exposure studies, planning and climatological analysis.

Data integration

Lightning information can be integrated into external tools and operational environments through:

- APIs;
- WebSocket streams;
- file transfers;
- WMS streams;
- tailored data flows.

User and service management

CATS includes tools for managing user accounts and assigning lightning services to each account. Services can be accessed through a web browser, including outside the customer's local network.

Reporting functionality allows administrators to monitor usage and trace specific events, including user connections and the processing of alarm messages.

CATS is continuously developed and improved entirely in-house by Meteorage's technical team.

Driven by operational feedback and evolving user requirements, CATS continuously adapts to the needs of meteorological services, public authorities, infrastructure operators and other weather-sensitive sectors. New functionalities, service improvements and workflow enhancements are regularly developed to help organisations maximise the value of lightning information and respond to emerging operational challenges.



A flexible approach to data acquisition: a country does not need a national lightning network to start benefiting from lightning information.

CATS can connect to any existing lightning detection network or source of information on lightning (high-resolution lightning locating system, long range detection network, satellite lightning imager, etc). An organisation that already operates a network can therefore use the platform to extract more operational value from its observations.

Where no local high resolution detection network is available, Meteorage can provide access to a GLD360 lightning data stream or support the deployment of a complete turnkey detection system. This flexible model allows organisations to start with available data and services, train operational teams and progressively develop their infrastructure according to their objectives and resources.

The scope of every project is different. Each solution is co-developed and adapted to different business models (single purchase or integrated into a network project and revenue sharing). The common objective is to help meteorological organisations move from lightning observations to sustainable services that support their public missions and professional users.

Long-standing collaborations

with worldwide meteorological services and institutions

Experience across different operational models

→ Capacity building & market development

Meteorage works with the South African Weather Service to strengthen lightning detection, develop services and increase the value delivered to users.



→ Lightning locating system installation & software

We design lightning locating systems including the site surveys, deployment of sensors and central analyzer installation and configuration.



→ Software solutions

CATS users to visualise, analyze, and use lightning data in real or past time.



→ Technical support & operation

Meteorage provides assistance covering operational deployment, technical guidance, system validation and continuous support.



→ Training

We consider training is essential to empower local teams in managing lightning-related risks.



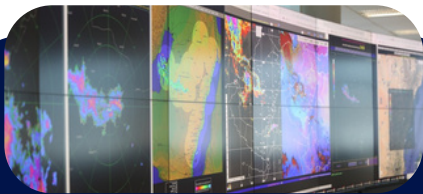
→ Direct lightning services



Ongoing projects :
COI Hydromet
(Madagascar, Comoros, Seychelles and Mauritius)

A long-term partnership

There is no single development pathway. Meteorage helps each organisation define a model adapted to its existing infrastructure, public-service missions, technical capabilities and economic objectives.



ONGOING TECHNICAL SUPPORT

We ensure the sustainability and performance of deployed systems thanks to an ongoing technical support.



STRENGTHENING LOCAL CAPABILITIES

We support the emergence of a sustainable ecosystem around lightning risk prevention, contributing to safer operations, reduced economic losses, and enhanced resilience of critical infrastructures.

1



STRUCTURED SUPPORT

We support our clients from the initial definition of requirements through to the operational implementation of personalised projects.

2



VALUE CREATION

Meteorage helps partners identify how the same lightning information can support multiple applications and communities.

Developing user-oriented services can increase the use and visibility of meteorological information.

Where the institutional framework allows it, value-added services may also support cost-recovery strategies and the sustainable development of meteorological capabilities.

3

4



Training and skills transfer form an integral part of the projects, with programmes adapted to technical teams, operational users and institutional requirements.

CASE STUDY

SOUTH AFRICAN WEATHER SERVICE



Enhancing lightning detection, warning and service capabilities

Lightning is a major natural hazard in South Africa. An estimated 264 fatalities occur each year, underlining the need for reliable detection, forecasting, warnings and public information.

The partnership between Meteorage and the South African Weather Service is designed to enhance the existing **South African Lightning Detection Network**, which the SAWS acquired and has operated since 2006; and provide new dedicated services for South African users, courtesy of the CATS software toolbox developed by Meteorage, contributing to targeted initiatives to mitigate the lightning risk for all affected activities in the country.

The collaboration provides access to Meteorage's technological expertise and operational experience in lightning detection and service production.

Operational benefits

- improved lightning forecasting and warning;
- real-time monitoring and analysis of thunderstorm events;
- targeted initiatives designed to reduce lightning-related risks;
- access to CATS new services.

This partnership illustrates Meteorage's approach: combining detection technology, operational tools, capacity building and service development to create measurable value for institutions, businesses and the population.



[Visit our website to find out more](#)

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As the South African Weather Service, we are pleased to join hands with Meteorage, a global authority where matters of lightning detection are concerned. This collaboration will go a long way to enhance our safety efforts against lightning strikes for our citizens, as well as for industries that are critical to our economy, such as aviation, energy and others.

SAWS' Chief Executive Officer

From scientific research to operational applications

A partner for lightning research

Since 1987, Meteorage has developed recognised expertise in lightning physics, detection performance and the operational uses of lightning data. Its infrastructure, historical datasets and teams support collaborations with scientists, universities and organisations to advance research, improve understanding, and enable real-world impact.

Meteorage actively contributes to:

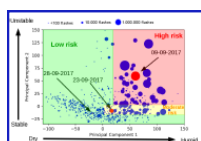
- International research programs (CNRS, CNES, ONERA, CIGRÉ)
- Lightning detection and atmospheric electricity conferences (ICLP, ILDC)



Publications and technical contributions

Meteorage's publication centre includes work relating to: lightning-related accidents, thunderstorm warning systems, lightning detection performance, ground-strike-point characteristics and lightning risk assessment.

Contributions to international research programs:



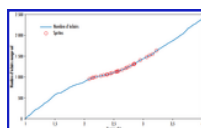
HyMeX / PEACH

Mediterranean severe thunderstorms & atmospheric electricity



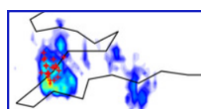
EXAEDRE (ANR)

Lightning physics, data assimilation and nowcasting



EUROSPRITE campaigns

Transient luminous events studies



ESTOFEX

Severe weather forecasting and validation

Innovative lightning detection and early warning solutions

International recognition

In 2025, Meteorage received the Varysian Global Hydrometeorological Excellence Award in the category:

OUTSTANDING LIGHTNING DETECTION AND EARLY WARNING SOLUTIONS

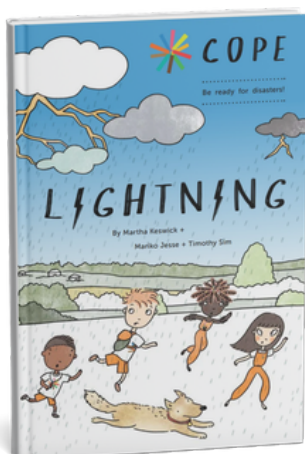
Presented during Meteorological Technology World Expo 2025 in Vienna, this award recognizes our long-standing commitment to innovation and proactive lightning risk management, highlighting the effectiveness of our solutions for real-time thunderstorm monitoring, early warnings, and integrating lightning data into decision-making processes.



Developing a culture of risk

Meteorage's mission also includes making lightning knowledge accessible beyond expert communities.

The company contributed scientific expertise to *Lightning*, a publication in the **COPE Disaster Champions educational series** developed with the World Meteorological Organization and international partners.



From thunderstorms and lightning science to life-saving safety actions, *Lightning* helps young readers build resilience and awareness.

The project promotes a universal safety message: **When thunder roars, go indoors.**

This educational initiative complements Meteorage's technical work. Detection and warning systems are essential, lasting resilience also depends on awareness, understandable guidance and the ability of communities to act.

Meteorage

LIGHTNING SPECIALIST FOR 40 YEARS

**The French company
that has become
a global leader**



4,000+ customers & partners worldwide
98% re-subscription rate

The Meteorage story begins in 1987, when the company was founded. In a pioneering move, it rolled out the first lightning detection network, whose sensors covered the entire French territory.

This network, which was regularly upgraded with the latest technological developments, gradually extended to Western Europe.

In 2001, Météo-France acquired a 65% controlling stake in Meteorage alongside G.A.I., an American manufacturer of lightning detection sensors. In 2002, the latter was acquired by the Finnish group Vaisala, the largest meteorological equipment maker in the world. Vaisala thus became a 35% shareholder in Meteorage and gave it access to an international lightning detection network, called GLD360.

At the end of 2020, Meteorage acquired acquisition of its Italian counterpart CESI SIRF, the lightning division of the CESI group, world leader in technical services to the energy sector.

Meteorage

LIGHTNING SPECIALIST FOR 40 YEARS

Based in Pau (France) and with a workforce of 30 employees, Meteorage is today the global leader in its market. It provides lightning risk management services to its customers in Europe and around the world, as well as consulting, engineering and support services relating to the creation of lightning detection systems.

For 40 years, Meteorage has been helping meteorological services, researchers, institutions and operational stakeholders transform lightning data into actionable information.



Prevention for better protection

Because lightning is a widespread natural risk, effective prevention relies on awareness, anticipation and the adoption of appropriate protective measures.

With this in mind, Meteorage helps its customers and partners to protect themselves better, with training, lightning data, and warning, analysis and services. This expertise is also part of a wider mission to disseminate a risk culture through our commitment to standardisation, our international studies and publications, as well as educational initiatives and prevention messages accessible to all.

Bridging fundamental science and operational applications

Meteorage actively contributes to:



WORLD
METEOROLOGICAL
ORGANIZATION



Identification of ground contacts
(lightning protection)

Quality, safety and CSR commitments

Our expertise is recognised through independent certifications that reflect the robustness of our processes and our commitment to responsible operations.





METEORAGE

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Anticipate. Monitor. Decide.

facing lightning and thunderstorm risks.

Visit the Meteorage website
www.meteorage.com

