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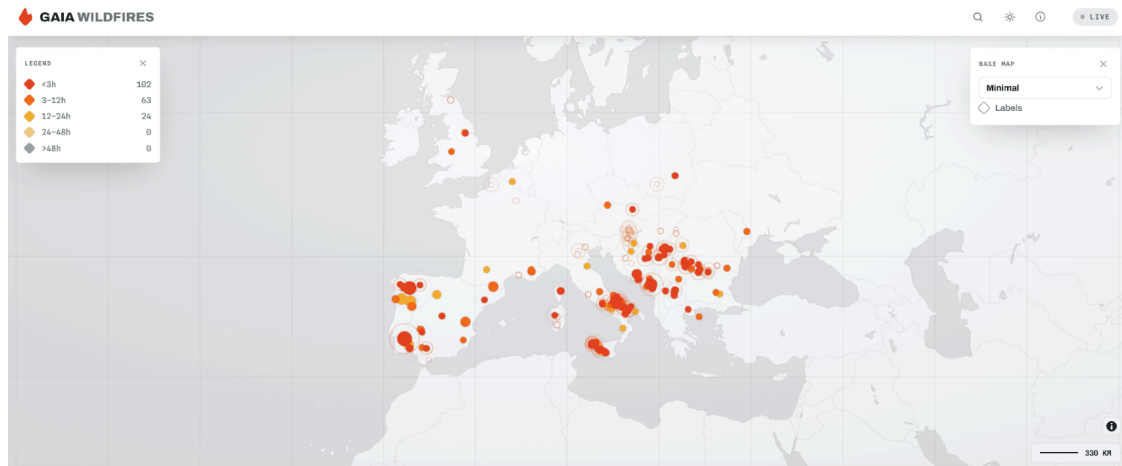
GAIA Wildfires: Tracking Europe's Active Fires from Space

Near-real-time monitoring of wildfires across Europe

Wildfires can evolve rapidly, making timely and reliable information essential to understand how an event develops.

GAIA Wildfires, a new service developed by **Fondazione LINKS** within the **UNICORN project**, tracks active fires across Europe in near real time by combining observations from multiple satellite sensors.

The service collects thermal signals detected by satellites, groups them into individual fire events and follows their evolution over time from the first detections to changes in intensity, perimeter and burned area.



A constantly updated view of active fires

GAIA Wildfires provides a continuously updated map of Europe where every tracked active fire can be viewed at a glance.

Events are **colour-coded according to how recently they were detected**, making it easier to identify the most recent activity.

By selecting an individual event, users can access a detailed view of its evolution, including:

- A zoomable map of individual satellite detections
- Fire intensity and Fire Radiative Power
- Fire perimeters and burned-area footprints
- Detection probability and other key metrics
- An interactive timeline of satellite acquisitions

The timeline can be explored by date and played to visualise how the fire evolves over time. Users can also switch between different metrics and toggle map layers, such as fire perimeters and burn scars.

Each satellite source is displayed on its own timeline lane, showing **which sensor detected the fire and when**.

A countdown also indicates the **next useful satellite pass for each sensor**, providing an indication of when the next observation can be expected.

Combining speed and precision

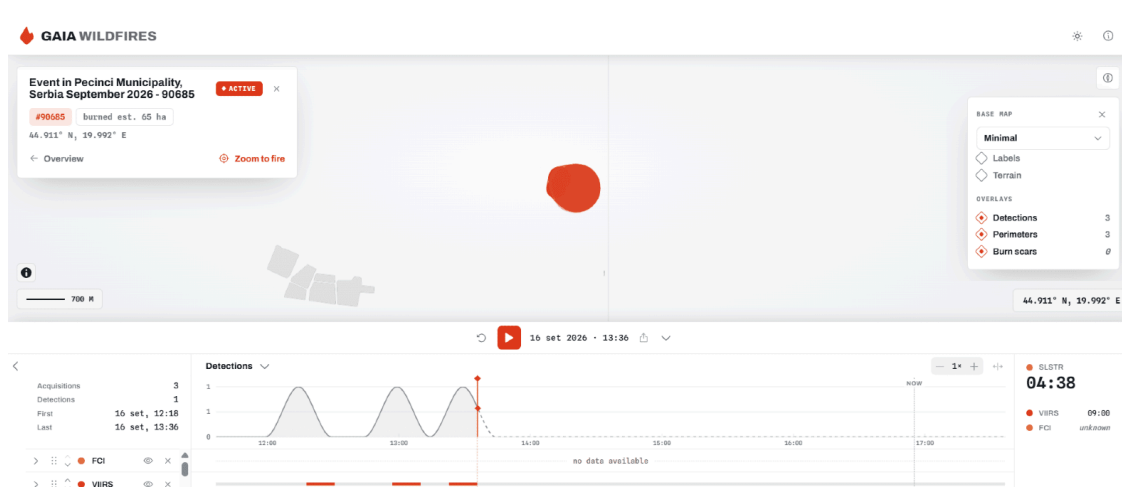
One of the key strengths of GAIA Wildfires is the combination of satellite sources with different revisit times and spatial resolutions.

FCI – Meteosat Third Generation Geostationary observations are updated every **10 minutes**, at approximately **2 km resolution**, supporting rapid detection and frequent monitoring.

VIIRS & SLSTR Polar-orbiting sensors pass over Europe **1–2 times per day**, providing observations at resolutions ranging from **375 m to 1 km**.

Sentinel-2 With observations approximately every **5 days** and resolutions between **10 and 60 m**, Sentinel-2 helps refine estimates of the burned area.

*By combining these different sources, GAIA Wildfires brings together **fast updates and high-resolution information**, providing a more complete picture of wildfire evolution.*



From first detection to burned-area estimate

GAIA Wildfires is designed to follow the **full evolution of a fire**, rather than simply identifying where an active fire is located.

From the first satellite detection, the service tracks how the event develops, how its intensity changes and how its perimeter evolves, progressively incorporating new observations as satellites pass over the area.

This allows users to move from a simple snapshot to a **time-based understanding of the event**, while bringing observations from different satellite sensors together in one interface.

Key benefits

- **Unified monitoring:** an up-to-date view of active fires across Europe
- **Full fire evolution:** from first detection to the final burned-area estimate
- **Next-pass prediction:** know when the next useful satellite observation is expected
- **Multi-sensor data fusion:** combine different resolutions and revisit times for a more complete picture

Explore GAIA Wildfires

GAIA Wildfires demonstrates how multiple satellite observations can be combined into an accessible and continuously updated service for **wildfire monitoring across Europe**.

Explore the platform and discover the latest fire events:

EXPLORE

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