

# BEYOND

## Centre of Earth Observation Research & Satellite Remote Sensing

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Poised to generate  
significant services  
for the ultimate benefit  
of all European citizens!



[www.beyond-eocenter.eu](http://www.beyond-eocenter.eu)



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# What inspire us

Worldwide efforts have been stepped up to take action on climate change and it is in this sense that the European Union and the International Community have taken coordinated actions.

In this context, the BEYOND Centre develops research and supports the role and mandate of civil protection, locally and internationally, with a focus on mitigation, preparedness, response and recovery by delivering accurate information through Earth Observation.

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## BEYOND in Figures

- > 20 cross-sector services
- > 14 service platforms open to the global public | stakeholders
- > More than 100 Risk and Recovery activations at national level
- > Collaboration with 5 International Institutions  
(UN, GEO, ESA, JRC, EC DG-ECHO)
- > 4 Private Sectors | Industries engaged  
(Energy, Health, Agriculture, Insurance)
- > 2 Worldwide distinctions | 1st Prizes  
(FireHUB, EYWA) 5 MEuros award



Winner of the first  
"EIC Horizon Prize  
on Early Warning  
for Epidemics"



- > 1 European distinction | MyEUSpace Best IDEA Award EUSPA
- > Research record (>200 papers, 3000 Citations)
- > Human Resources:
  - 45 key personnel (PhD, MSc, other research staff)
  - 7 disciplines (AI/ML, Data, EO, Mathematics, Meteo, Engineering, Communication, etc)

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# Indicative Services of BEYOND for Civil-Sector Resilience

## **FireHUB: Forest fire monitoring and management service based on satellite remote sensing**

The FireHUB system of EO services predicts, detects and monitors in real time the evolution of wildfires in Greece while it simultaneously models the smoke dispersion. It generates daily active fires and burnt areas in Europe, N. Africa, Middle East, Balkans, and Black Sea countries. Through Copernicus CEMS and third party activations, FireHUB delivers fire risk and historical fire regime assessments worldwide.

More information: <http://beyond-eocenter.eu/index.php/web-services/firehub>

## **FloodHUB: Flood monitoring service**

The FloodHUB system of EO services is activated as soon as a major flood event occurs and gives a near real-time operational picture of the disaster using hydrological and hydraulic modeling. It dynamically leverages satellite remote sensing observations, crowdsourcing and in-situ sensor data.

More information: <http://beyond-eocenter.eu/index.php/web-services/floodhub>

## **GeoHUB: Geohazards monitoring service using satellite radar interferometry**

GeoHUB system of EO services exploits primarily SAR imagery and employs interferometric techniques to assess ground deformation. It generates products for diachronic monitoring of earthquakes, volcanoes, landslides and urban subsidence. The GeoObservatory is activated for any earthquake and/or a volcanic eruption over the world.

More information: <http://beyond-eocenter.eu/index.php/web-services/geohub>

## **SolarHUB: Nowcasting Solar energy continuous monitoring service**

The SolarHUB system of EO services, SENSE and nextSENSE, exploits daily acquisitions of big satellite data with AI techniques and provides now-casting and short-term forecasting surface solar radiation and energy assessments over Europe, N. Africa, Middle East, Balkans, and Black Sea.

More information: <http://beyond-eocenter.eu/index.php/web-services/solarhub>

## **AgriHUB: Satellite technology as a tool to shape agricultural policy and ensure food security**

The AgriHUB system of services, exploits EO with state-of-the-art AI to monitor crops and food production, assess the good agricultural practices, and provides early assessments and warning on Climate Change impact in yield. It also supports decisions in relation to farmers' compliance with CAP.

More information: <http://beyond-eocenter.eu/index.php/web-services/agrihub>

## **DustHUB: Desert Dust Monitoring Service**

The DustHUB system of EO services provides a three-day forecast of desert dust concentrations and dispersion over EU, N. Africa, Middle East, Balkans, and Black Sea. It informs on dust particle concentrations at all heights of the atmosphere, as well as dry and wet depositions of dust on the surface.

More information: <http://beyond-eocenter.eu/index.php/web-services/dusthub>

## **Early Warning System for Mosquito-borne Diseases (EYWA)**

EYWA system of EO services forecasts and informs on the entomological and epidemiological risk for Mosquito-Borne Diseases (Malaria, West Nile Virus, Dengue Fever, Yellow Fever, Zika, Chikungunya) and supports the public health authorities to prevent the spread of diseases in thousands of settlements in Europe, Africa, and Asia continents.

More information: <http://beyond-eocenter.eu/index.php/web-services/eywa>

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Imagination  
takes us  
BEYOND  
our limits

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