

Concept note

In April 2018, the European Commission launched a €5 million prize for an early warning system for epidemics.



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

The prize rewarded the development of a scalable, reliable and cost-effective early warning prototype system based on Earth Observation data to forecast and monitor outbreaks of vector-borne diseases.

The Early Warning System for Mosquito-borne Diseases ([EYWA](#)) was developed in the context of the EuroGEO Action Group "Earth Observation for Epidemics of Vector-borne Diseases - EO4EViDence". EYWA is a game changer in the domain of epidemics. It transforms scientific knowledge into decision-making and contributes significantly to combating and controlling the threat of mosquito-borne diseases.

The solution enhances mosquito surveillance and control at various spatio-temporal scales and in different climatic zones, and guides day-to-day prevention and mitigation actions. EYWA significantly reduces the entomological risk and results in the aversion of human cases in thousands of villages where it is employed.

The technological novelty of EYWA lies in the efficient handling of multiple data sources, such as entomological, epidemiological, Earth Observation, crowd and ancillary geospatial data, along with dynamic and data-driven models to generate knowledge on mosquitoes' abundance and pathogens' transmission. Thanks to data provided by Copernicus satellites and Copernicus Core Services, EYWA reliably depicts the dynamics of mosquito habitats and breeding sites. The system capitalises on European investments in Earth Observation and cloud-based data repositories and capacities (i.e. DIAS, GEOSS, NextGEOSS).

Since 2020 the system has been operational in Europe, and in 2022 it provided operational support for 11 regions in 5 European countries (France, Germany, Greece, Italy, and Serbia). In 2022, EYWA further expanded its operational capacity within Europe by adding a new region in Italy, and outside Europe in Ivory Coast (Africa) and its pre-operational capacity in Thailand (Asia) and Ghana (Africa), with the goal of covering and supporting regions with different climatic and socioeconomic conditions. In total, the system benefits 14 regions in 8 countries across the globe.

This distinction of the EYWA system makes it a significant milestone and an exceptional example of the vast Earth Observation potential and of the societal benefits that can derive from harnessing space technology.

To present this system, the [Operational Unit "BEYOND Centre of Earth Observation Research and Satellite Remote Sensing"](#) of the National Observatory of Athens and [Eurisy](#) organise the webinar "Unveiling the EYWA System: From the challenge...to the solution!" on the 26th of May, at 11.00 a.m CET.

The webinar, organised within the framework of the [Eurisy Members' Corner](#), aims at presenting the EYWA system to professionals working in health, environment, climate change, and space and to concerned communities and decision makers. The event will showcase EYWA and its impacts and results through concrete use cases.

Agenda

Friday 26 May 2023

11:00 – 12:30 CET

11:00-11:05 Welcome:

Ms. Grazia M. Fiore

Head of programmes, Eurisy

11:05-11:15 Introduction:

Dr. Haris Kontoes

Research Director of NOA | Operational Unit “BEYOND Center for Earth Observation Research and Satellite Remote Sensing”

Coordinator of EuroGEO Action Group for Epidemics & Lead Partner of EYWA

11:15-11:30 “Unveiling the EYWA System | From the challenge...to the solution”

Dr. Haris Kontoes

Research Director of NOA | Operational Unit “BEYOND Center for Earth Observation Research and Satellite Remote Sensing”

Coordinator of EuroGEO Action Group for Epidemics & Lead Partner of EYWA

Q&A

11:30-11:55 “The EYWA platform: Data & predictions dissemination”

Konstantinos Tsaprailis

Research Associate & Technical Project Manager

Q&A

11:55-12:05 “Potential utilisation of EYWA for targeted vector monitoring in the upper Rhine valley, Germany”

Dr. Daniel Wohlgemuth KABS (for Germany)

German Mosquito Control Association

Q&A

12:05-12:15 “Ecology of mosquito-borne pathogens in Europe”

Dr. Renke Luehken

Head Department of Arbovirology & Entomology (BNITM, Hamburg)

Q&A

12:15-12:25 “Using Earth Observation data for assessing environmental and climatic impacts on mosquito-borne disease transmission in Côte d’Ivoire”

Dr. Julien Zahouli Côte d'Ivoire (Africa)

Q&A

12:25-12:30 Wrap up from the discussions and final remarks:

Dr. Haris Kontoes and Ms. Grazia M. Fiore

Registration link: <http://bit.ly/3mi8WoN>

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