

A SYstem for reaL-time obserVation of Aeroallergens (SYLVA)



Resumen:

Primary biological aerosols (bioaerosols, mainly pollen and fungal spores, but also bacteria and viruses) released into the air by plants, fungi, and other biota, are strongly impacted by climate change. Simultaneously, they also directly affect the climate through interactions with clouds and precipitation. Many bioaerosols, especially pollen and some fungal spores, have allergenic effect on humans. Such aeroallergens affect over 80 million Europeans, reducing their quality of life and costing well over €50 billion/year. Information on bioaerosols is also vital for agriculture and forestry, where timely data about plant development, abundance of pathogens and parasites, as well as invasive species, are necessary for precision-agriculture and knowledge-based technologies. The demand for timely, free, and objective information is currently not met.

The overall goal of SYLVA is to achieve a radical improvement and fill gaps in temporal resolution, timeliness, coverage, and availability of information about aeroallergens and other bioaerosols. SYLVA technological innovations will be accompanied with new infrastructure, distribution and exploitation pathways, and links with stakeholders to ensure technology uptake and sustainability beyond the lifetime of the project.

Objetivos:

The main goal of SYLVA is to improve the resolution, coverage and availability of information about bioaerosols in Europe, especially pollen and fungal spores. This goal will be reached by the development and improvement in several fields:

- Develop cutting-edge bioaerosol monitoring technologies
- Extend bioaerosol monitoring data infrastructure and software accessibility, ensuring open-source publication and integration into the European environmental observing system.
- Validate the operational maturity and added-value of bioaerosol monitoring technology through Demonstration Pilots in three European regions
- Maximize impact and to ensure the long-term time series by demonstrating SYLVA innovations to key stakeholders related to climate, health, agriculture, silviculture, and the environment
- Ensure the long-term sustainability of bioaerosol technology and infrastructure across Europe

Objetivos contribución:

The University of Córdoba has a key role in the project, coordinating the work package 3. Work package 3 is the one with the greatest weight in terms of human effort and duration. In this package, airborne particles will be monitored in three pilots, considering areas under extreme conditions: Northern, Central and Southern Europe. Different technologies will be used to quantify pollen and spores. Among the technologies that will be used are different methods of capturing and automatic identification of particles, atmospheric lidar, eDNA. The University of Córdoba also has a key role in the rest of the work packages.

Presupuesto: 2,998,677.25

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