NEWSLETTER

July, 2026 - Issue 2

Better Monitoring for Climate & Biodiversity - Together with Europe and China

An EU Horizon Europe research project integrating climate and biodiversity monitoring systems

Welcome to BioClima

Welcome to the second edition of the BioClima Newsletter. As our international research project moves into its next active phase, we are excited to bring you the latest developments from our joint European and Chinese research teams.

Are you new to the project or did you miss our launch?
Our foundational first issue introduces the full scientific vision of BioClima, details the project's structure, and outlines our goals for the upcoming years.

Read BioClima **Newsletter Issue 1**

What is BioClima?

BioClima is an international scientific collaboration designed to strengthen how biodiversity and climate change are monitored across diverse ecosystems. The project integrates **field observations, satellite data, AI-based analysis**, and shared data standards to ensure that environmental information is reliable, interoperable, and actionable across regions and disciplines.

Bringing together **37 organisations from Europe and China**, BioClima combines Earth observation, in-situ measurements, and artificial intelligence to support better science and better decisions, from local to global scales.

Funded by the European Union

This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No 101181408

European and Chinese BioClima partners meet in China to strengthen biodiversity and climate cooperation

Researchers and project partners from Europe and China gathered for a week of workshops, discussions and field visits focused on AI-driven Earth observation, biodiversity monitoring and climate adaptation.

Hosted by the **Aerospace Information Research Institute** (AIRCAS) of the **Chinese Academy of Sciences,** the meeting brought together researchers, technical experts and project managers from partner **institutions across Europe and China**. Coordinated by the **Faculty of Applied Sciences** (FAS) at the **University of West Bohemia** (UWB), BioClima project develops innovative approaches linking Earth observation, biodiversity monitoring and climate resilience.

During the week, participants reviewed progress made during the project's first year and discussed future activities. Particular attention was given to the development of AI-driven Earth observation tools that combine satellite imagery, field observations, drone monitoring and advanced data analytics to support environmental decision-making and strengthen ecosystem resilience in Europe and China.

A key part of the meeting was the **exchange of knowledge and experience in biodiversity monitoring, climate-risk assessment, data standards and ecosystem conservation.** Partners discussed the development of common methodologies and interoperable data systems that will improve our understanding of how climate change affects biodiversity and ecosystem services. The consortium also reviewed several key achievements, including the **development of integrated observation technologies, a joint China–Europe biodiversity observation framework and a prototype ecological risk assessment and early-warning system**. Reflecting on the value of the collaboration, Liu Yalan from AIRCAS emphasized that "*although our research activities are implemented through different approaches in Europe and China, we share a common goal: strengthening biodiversity conservation and improving our understanding of climate change impacts through joint observation, data sharing and scientific cooperation.*"

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BioClima partners explore biodiversity conservation and climate resilience in Huzhou

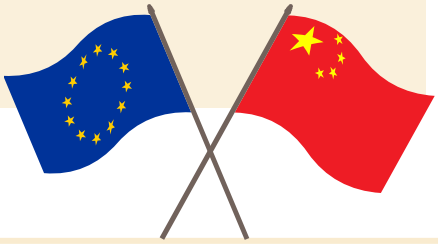
Building on the workshop discussions in Beijing, BioClima partners travelled to Huzhou to gain first-hand insights into biodiversity conservation and ecological monitoring. The visits provided an opportunity to connect research with practice, exchange expertise and strengthen collaboration between European and Chinese institutions.

The second part of the programme took place in Huzhou, where participants met representatives of the **Huzhou Municipal Ecology and Environment Bureau, the Huzhou Biodiversity Conservation Research Center** and other local stakeholders. Through visits to the **World Irrigation Project Heritage site**, BioClima demonstration sites in **Anji County** and biodiversity monitoring locations across **Zhejiang Province**, partners had the opportunity to see practical conservation measures and monitoring activities first-hand.

Reflecting on the week, Tomáš Mildorf, project coordinator from FAS UWB, emphasized the value of international collaboration "*One of the greatest strengths of BioClima is the opportunity to connect European and Chinese expertise. The discussions in Beijing and Huzhou showed that we face many common challenges and can achieve more by addressing them together*."

The meeting highlighted the growing importance of EU–China scientific cooperation and reinforced BioClima's ambition to develop practical tools that support biodiversity conservation and climate resilience in both regions.

More information



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China-EU biodiversity cooperation strengthened through new project-level agreement

During the BioClima partners' visit to China, representatives of European and Chinese institutions witnessed the inauguration of the China-EU Biodiversity Exchange Centre in Huzhou and the signing of the Memorandum of Understanding on Deepening China-EU Cooperation on Biodiversity and Promoting the Development of Huzhou as an International Cooperation Demonstration Zone for Ecological Civilization.

The memorandum was signed within the framework of the BioClima project by the project coordinator, Tomas Mildorf of the Faculty of Applied Sciences at the University of West Bohemia in Pilsen, Czechia, and Xueliang Fan, Deputy Director of the Huzhou Ecology and Environment Bureau in Zhejiang Province, China.

The agreement provides a framework for the activities of the **newly established China-EU Biodiversity Exchange Centre**, which will serve as a platform for scientific cooperation, knowledge exchange, and stakeholder engagement between European and Chinese partners.

The agreement aims to **strengthen long-term cooperation between the Chinese and European BioClima partners** in biodiversity conservation, ecological monitoring, and the implementation of the Kunming-Montreal Global Biodiversity Framework.

It supports joint **research activities, knowledge exchange, capacity building, and the application of innovative monitoring technologies,** while positioning Huzhou as a flagship demonstration area for international cooperation on biodiversity and ecological civilization.

The memorandum also promotes collaboration among research institutions, universities, public authorities, and other stakeholders, creating new opportunities for scientific exchange and the development of practical solutions for biodiversity conservation and climate resilience.

More information

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BIOCLIMA PAST EVENTS

Understanding Biodiversity in Times of Climate Change

On 24 April 2026, the BioClima project organised the **online webinar Understanding Biodiversity in Times of Climate Change**, bringing together researchers, policy experts, and specialists in Earth observation and environmental monitoring.

The event focused on the impacts of climate change on biodiversity and highlighted the role of Earth observation, geospatial data, and AI-supported tools in research and decision-making processes.

The webinar featured speakers from leading European institutions, including Lund University, Finnish Environment Institute, University of West Bohemia, European Commission, Group on Earth Observations, University of Twente, and University of Bucharest.

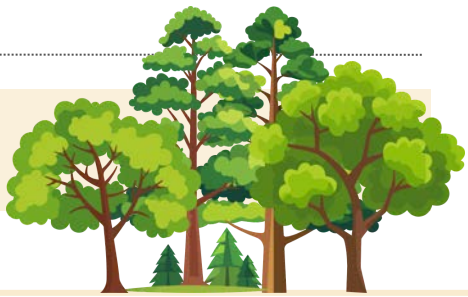
BioClima Advances GeoAI Early Warning System at Hybrid Project Meeting in Prague

BioClima project partners met in Prague on 25–26 March 2026 for a hybrid meeting focused on the development of GeoAI tools and the BioClima early warning system. Representatives from partner organisations across the Czech Republic, Greece, and Norway discussed progress in ecological modelling, AI integration, and decision-support tools for climate and ecosystem monitoring.

The meeting included a **demonstration of the BioClima platform**, **featuring data from pilot areas across Europe and detailed discussions** on the Czech pilot scenario. Participants also reviewed the integration of large language models and user-friendly interfaces designed to support policymakers and forest managers. The meeting marked an important milestone in developing an AI-powered platform for environmental monitoring and climate resilience.

Upcoming events

For upcoming events, follow the **BioClima website.**



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BIOCLIMA PAST EVENTS

Lecture on Modern Earth Observation in Agriculture

As part of the BioClima project, modern Earth Observation (EO) methods are being integrated into higher education to support knowledge transfer in climate, agriculture, and biodiversity monitoring. A specialized lecture was held at the Czech University of Life Sciences Prague, Faculty of Engineering, and delivered by Jiří Sedlák.

The lecture on Modern Earth Observation in Agriculture introduced EO technologies including satellites, UAVs, manned aircraft, and high-altitude platforms, with particular focus on the European Copernicus programme and Sentinel missions.

Participants learned about practical applications in agriculture, such as vegetation monitoring, precision farming, and early detection of crop stress. The lecture also presented the BioClima case study in the Vysočina region, demonstrating how satellite, aerial, and in situ data can support climate adaptation, biodiversity monitoring, and sustainable landscape management.

Symposium in China Advances Integrated Monitoring of Climate Change and Biodiversity

In March 2026, the 2nd **Symposium on Enhancing Integrated Monitoring of Climate Change and Biodiversity with Environmental and Earth Observation** was held in Wuyishan City, China, bringing together more than 50 experts from research institutions, government, and industry. The event focused on Earth observation, climate change, biodiversity conservation, and integrated air–space–ground monitoring systems.

A key outcome was the recognition of the importance of combining artificial intelligence, big data, and ecological research to support conservation and climate resilience. Mangdang Mountain and Wuyishan Mountain were selected as demonstration sites for long-term monitoring systems. During the symposium, the Wuyishan Municipal Forestry Bureau officially authorized the China–EU BioClima project team to conduct field observations in selected forestry sample plots.

Read more

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BIOCLIMA USE CASES: WHERE WE WORK

European use cases

BioClima's research is structured around a series of European and Chinese case studies, representing real-world landscapes where innovative monitoring methods are applied and evaluated. These case studies include forests, agricultural landscapes, protected habitats, coastal areas, and ecosystem restoration sites.

Winter Activities in Vysočina Region (the Czech Republic)

Field Monitoring and Infrastructure Maintenance

As part of the BioClima semi-operational trial in the Vysočina region, a new series of field activities focused on monitoring infrastructure maintenance, plant assessment, and ongoing research tasks. The team inspected meteorological equipment and sensors measuring temperature and humidity to ensure reliable environmental data collection for evaluating the influence of local microclimatic conditions on tree and shrub performance.

Plant Health and Forest Protection

Researchers assessed the overwintering condition of selected species, including frost damage and bud vitality, repaired protective fencing against wildlife damage, and monitored bark beetle presence in coniferous stands. These activities provide important insights into species tolerance to climatic stress and secondary biotic disturbances.

Photo: Control of Meteorological Monitoring

Genetic Analysis of Apple Genotypes

Selected apple plant material was transported to the Research and Breeding Institute of Pomology in Holovousy for molecular genetic analyses focused on the characterization of apple genotypes and their adaptation to changing climatic conditions. Together, these activities support the integration of field and laboratory research within the BioClima project.

More information

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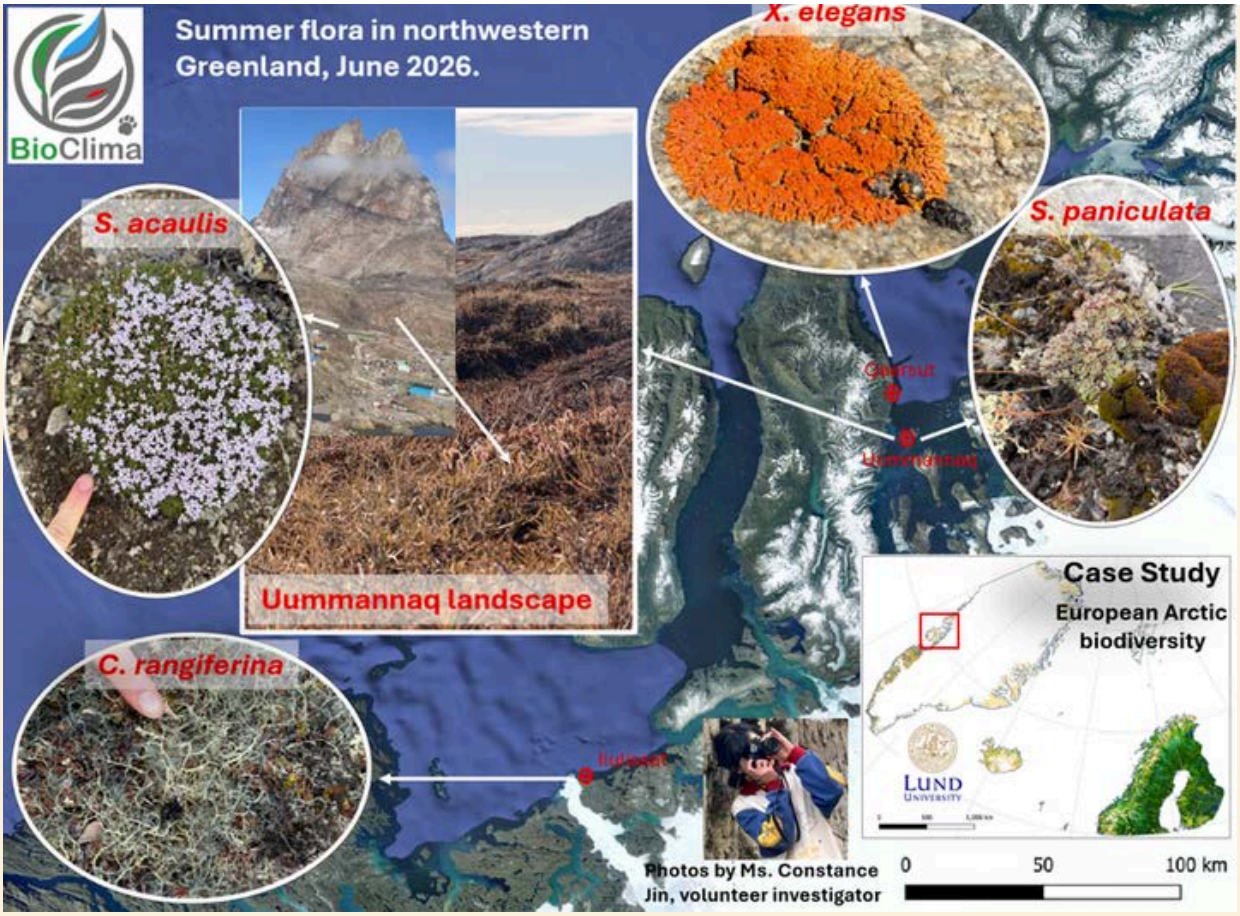
BIOCLIMA USE CASES: WHERE WE WORK

European Arctic Use Case: Monitoring Vegetation Dynamics in a Changing Climate



Using satellite Earth observation and advanced vegetation indicators, the **European Arctic BioClima** use case tracks how climate change is affecting vegetation productivity and seasonal dynamics across northern ecosystems.

Climate change is transforming ecosystems across the Arctic and other high-latitude regions. Changes in temperature, precipitation patterns, and growing seasons are already influencing vegetation growth, productivity, and seasonal development, making long-term environmental monitoring more important than ever.

Within BioClima, researchers from Lund University are investigating vegetation dynamics across the European Arctic using the High-Resolution Vegetation Phenology and Productivity (HR-VPP) dataset, a Copernicus Land Monitoring Service product that provides consistent monitoring of vegetation across Europe at a spatial resolution of 10 metres and with time series available since 2017.

More information

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BIOCLIMA USE CASES: WHERE WE WORK

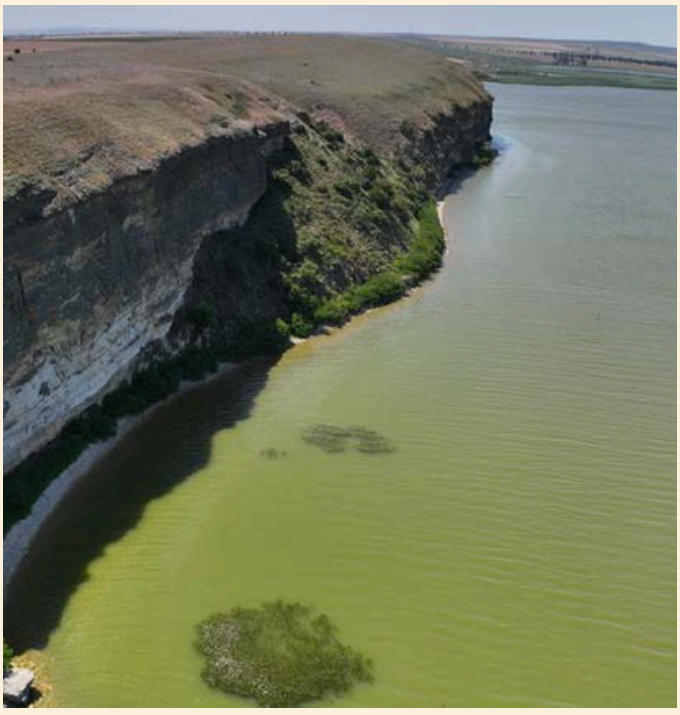
Romania use case update: UAV and field data collection for biodiversity monitoring

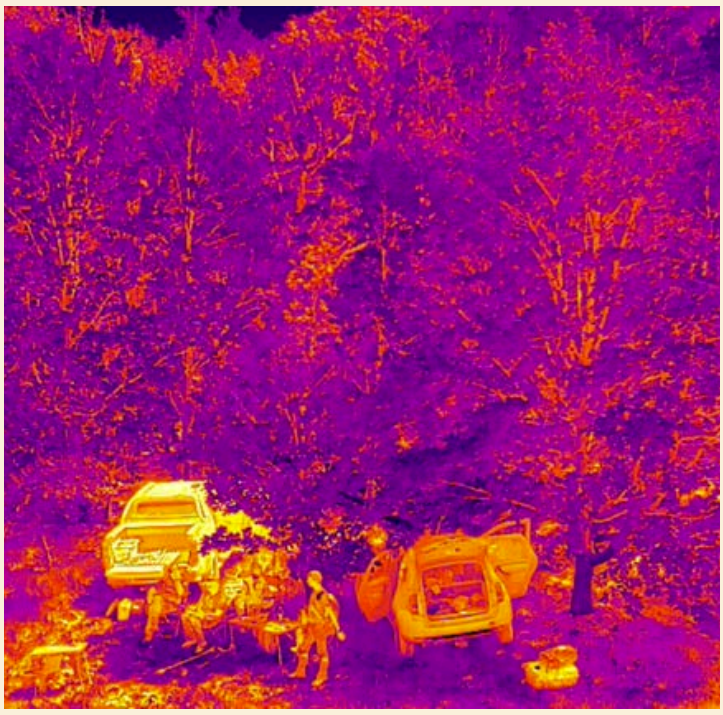
The Romania use case has entered an intensive field data collection phase, combining **UAV-based remote sensing with ecological field measurements** to support AI-driven biodiversity monitoring. Two seasonal field campaigns have already been completed, with two additional campaigns planned later this year to capture seasonal changes in vegetation, pasture condition, canopy structure and surface temperature.

Field activities are taking place in **two contrasting landscapes**: the steppic **region of Dobrogea** and the **sub-Mediterranean Iron Gates area.** Together, these sites provide ideal conditions for testing how UAV technologies and AI can improve biodiversity monitoring across diverse habitats, including grasslands, forests, rocky escarpments, wetlands and lakes.

The research team **collected complementary datasets using UAV-mounted LiDAR**, multispectral and thermal sensors. LiDAR captures the three-dimensional structure of vegetation and terrain, enabling the assessment of canopy height, vegetation density and habitat complexity. Multispectral imagery provides information on vegetation condition and productivity, while thermal imaging supports land surface temperature mapping and the analysis of microclimatic differences across vegetation types.

More information





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BIOCLIMA USE CASES: WHERE WE WORK

BioClima Czech Pilot Site Featured in Czech Radio Report on Climate Change Research

How can satellites, drones, environmental sensors, and artificial intelligence help us better understand the impacts of climate change on landscapes and ecosystems? This question was at the heart of the BioClima and FOCAL Field Day held on **28 April 2026** in the pilot study area near the village of **Matějov in the Vysočina Region** of the Czech Republic.

The event brought together researchers, technology experts, environmental specialists, local authorities, and project partners to showcase innovative approaches to climate and biodiversity monitoring directly in the field. Participants had the opportunity to **observe environmental sensors, drone-based aerial surveys, satellite data applications, soil sampling activities, and AI-supported environmental modelling.**

The Matějov site serves as a demonstration area for both the BioClima and FOCAL projects. Long-term activities in the area focus on **ecosystem restoration, biodiversity enhancement, forest regeneration, water retention measures, and monitoring** the impacts of climate change on agricultural and forest landscapes.

More information

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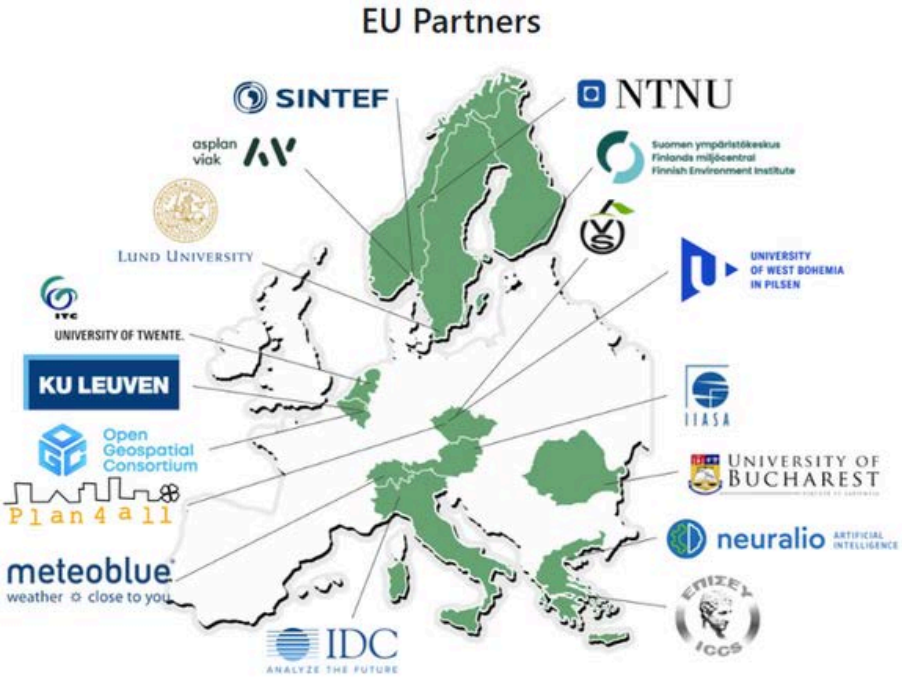
BIOCLIMA PARTNERS

Meet the BioClima partners

BioClima brings together a unique consortium of **37 organisations** from **Europe** and **China**, including universities, research institutes, environmental agencies, technology providers, SMEs and international organisations. This diversity enables BioClima to compare monitoring approaches across different ecosystems, climates and governance contexts, and to jointly develop interoperable methods that work across regions and disciplines.

In Issue 1 we introduced you: University of West Bohemia in Pilsen, University of Twente, Research and Breeding Institute of Pomology Holovousy Ltd, Finnish Environment Institute, Institute of Communication and Computer Systems.

In Issue 2 we will introduce you: Plan4all z.s., University of Bucharest, Katholieke Universiteit Leuven, Open Geospatial Consortium Europe, Nerualio AI IKE.



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EUROPEAN PARTNERS INTRODUCTION

Plan4all, z.s.

- Plan4all leads communication, dissemination, and stakeholder engagement. Plan4all ensures that project results are not only visible, but usable and impactful for a wide audience, from public authorities to SMEs and citizen scientists.
- **More information**

University of Bucharest

- UB leads efforts in case study implementation and spatial assessment of climate and biodiversity indicators. Their team contributes to the design of monitoring strategies and evaluation frameworks tailored to both urban and rural protected areas.
- **More information**

Katholieke Universiteit Leuven

- KU Leuven contributes to land-use modelling and the integration of biodiversity indicators into climate mitigation and adaptation strategies in agricultural landscapes. The team applies advanced geo-data analytics, remote sensing, and spatial modelling to assess land-use dynamics and support policy-relevant scenarios.
- **More information**

Open Geospatial Consortium Europe

- OGC leads communication and stakeholder engagement while developing interoperable standards for biodiversity and climate data integration across Europe and China. OGC builds an open-science demonstrator, supports ecosystem vulnerability assessment, and organises innovation workshops and capacity-building activities.
- **More information**

Neuralio AI IKE

- In BioClima, Neuralio AI **leads WP3: Spatial and AI-enhanced analytics models for climate and biodiversity integration and monitoring**. Its role is to translate BioClima's Earth Observation, environmental and biodiversity data into AI-enhanced models, early-warning capabilities and decision-support services for climate-biodiversity action.
- **More information**

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If you would like to contribute to a future BioClima Newsletter with a story, project highlight or use-case update, please **contact the BioClima communication team.**

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