



ENVIRONMENTAL OBSERVATIONS AND THE ESA-EC EARTH SYSTEM SCIENCE INITIATIVE

Funding opportunities in
Horizon Europe for 2024



*Research and
Innovation*

Environmental Observations and the ESA-EC Earth System Science Initiative: Funding opportunities in Horizon Europe for 2024

European Commission
Directorate-General for Research and Innovation
Directorate B — Healthy Planet
Unit B3 — Climate & Planetary Boundaries

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Jointly prepared by EC's Directorate General for Research and Innovation and
ESA's Directorate of Earth Observation Programmes

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INTRODUCTION

Environmental Observation (EO)¹ provide the basis for environmental policies as they are required to detect the problems, understand causes, contexts and impacts, and to monitor the effectiveness of those policies. In time of multiple environmental crises, the increased need and use of EO covers a wide range of policy domains, in particular: pollution, climate change mitigation and adaptation, biodiversity restoration and ecosystems management. Beyond environmental policies, EO plays an important role for planning and operations in transport, energy, water, agriculture, and other sectors. The increasing demand for information and applications of EO is accompanied by a rapid development in technologies for sensors, platforms and in particular, data management processing.

The EU supports research and innovation for Environmental Observing Systems mainly through Horizon Europe (HE), the EU's programme for Research and Innovation while operational observing systems at EU level are implemented through the EU Space programme, in particular its EO component Copernicus. As EO is relevant and addressed in different parts of Horizon Europe, this brochure intends to guide researchers and innovators working in the EO area to potential topics of their interest. We present upcoming funding opportunities for research and innovation related to environmental observations in Pillar II of Horizon Europe, addressing the global challenges and European industrial competitiveness. EO is addressed in the clusters 3, 4, 5, and 6 of Horizon Europe Pillar II. However, this doesn't imply that EO doesn't play a role in other parts of the programme as well. Pillar I is particularly interesting for upstream research in the area with the European Research Council, and for support and access to Research Infrastructures. Innovative companies and start-ups are invited to watch out for EO related [challenges](#) of the European Innovation Council, in Horizon Europe Pillar III. Please refer also to the links provided at the end of the brochure to find more information.

¹ Environmental Observation in this context includes all remote sensing or in-situ observations or measurements of environmental parameters or variables from space-, air, ship- or ground-based platforms.



[FutureEO](#) is ESA's main Earth Observation science and innovation programme. Through FutureEO, ESA – which has a wider set of member states than the EU – identifies, develops, and operates scientific Earth observation missions (like the Earth Explorer missions). It lays the foundations and prepares for the development and exploitation of the next European operational missions (e.g. Copernicus Sentinel and Meteorological missions) and enables work with the user community (scientists, public institutions, industry) and partners worldwide to maximise the impact of European EO assets on society. The EO Science for Society element of FutureEO represents a catalyst for scientific excellence in EO, aiming at maximizing the scientific impact of European EO capabilities, advancing our fundamental understanding of the Earth and the system, and establishing a solid scientific basis for the next generation of EO products, solutions for society and future observation systems. Activities are structured through a set of [Science Clusters](#) focused on major domains of Earth sciences: e.g., [polar science](#), [carbon research](#), [atmospheric science](#), [oceans](#), promoting collaborative research to face the major science and societal challenges of our decade.

Driven by a common vision the European Commission (EC) and the European Space Agency (ESA) launched in 2020 a joint Earth System Science Initiative (ESSI).

The ESA-EC Joint Earth System Science Initiative enables collaborative and interdisciplinary science across selected complementary projects, funded on the EC side through Horizon Europe (HE) and on the ESA side through the FutureEO programme. Collaborative activities bring together capacities to address common scientific challenges with a view to reach more ambitious scientific goals beyond the original plans of individual projects so that final results are bigger than the sum of the parts.

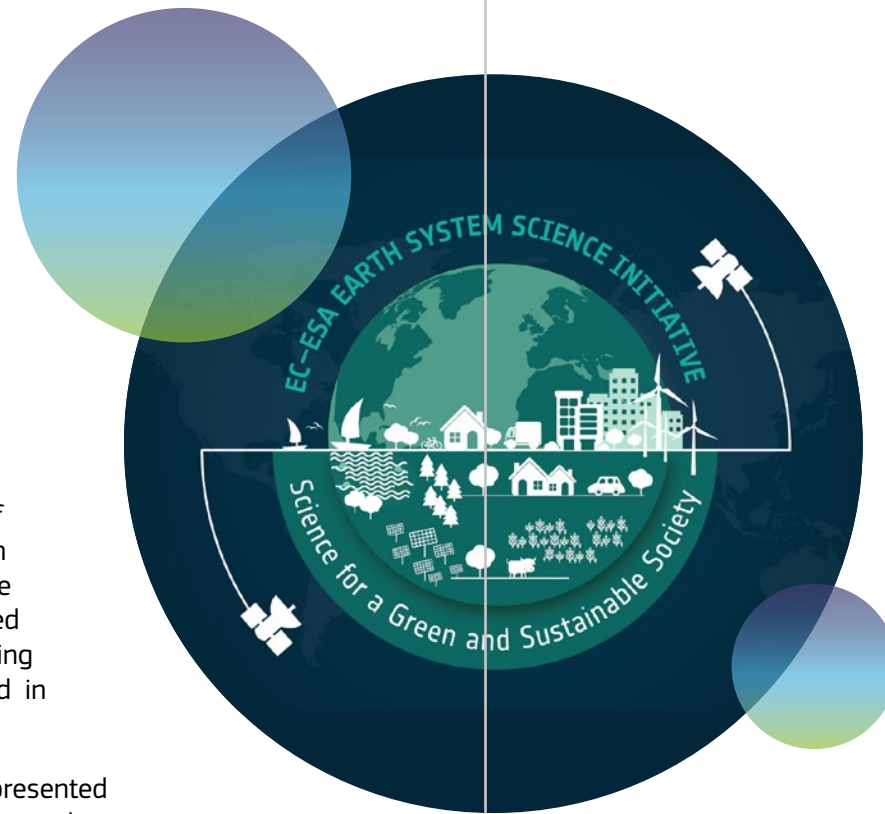


The two funding Programmes are cooperating based on a common Scientific Agenda, including a set of common priorities formulated in a form of [Flagship Actions](#) defined through a multi-year set of studies, projects, and actions. Several HE topics have been dedicated to this cooperation (see section 2.1) and are expected to stimulate cooperation with activities funded through the FutureEO programme of ESA. The upcoming topics from HE Work Programme 2024 are presented in **Part A** of this brochure.

Similarly, the activities ESA's activities within ESSI were presented at [EO Science for Society Info days 2023](#). Invitations to tender on complementary research topics for polar regions, terrestrial carbon, methane, cloud-aerosol interactions, climate adaptation and natural disaster, agriculture, ocean health, biodiversity and water resources were showcased for the next work programme. For more information and updates on ESSI and guidance on this cooperation, please follow the news on at the [EO4society](#) website and the [ESSI website](#).

Part B of this brochure provides an overview of topics from Horizon Europe which support and are coordinated with the Group on Earth Observations (GEO). GEO is a partnership of more than 100 national governments and a large number of participating organizations that envisions a future where decisions and actions are informed by coordinated, comprehensive and sustained Earth observation. Some topics of Horizon Europe are specifically addressing the European regional initiative of GEO, EuroGEO.

GEO's main goal is to advocate for open data sharing and international cooperation on Earth observation. As both issues are also general policy objectives of the



European Commission Horizon Europe requires all participant to follow open science practices, which includes making data available based on the [FAIR](#) data principles. Some of the topics also support the establishment of links with the European Open Science Cloud ([EOSC](#)) and the Knowledge Centre for Earth Observation ([KCEO](#)).

Findable, Accessible, Inter-Operable, and Re-useable (FAIR) co-operation beyond EU member states is encouraged not only with countries associated the Horizon Programme, but also globally for Research and Innovation actions. Participants from low- and middle-income countries² are in principle eligible to receive funding.

In **Part C** of this brochure other selected topics with relation to Earth observation from the HE work programme 2024, are presented.

Important notice:

Topics descriptions are here summarized and are thus not comprehensive. Please refer to the Funding and Tenders portal (links are provided for each topic) for a complete description. Through the F&T portal you also get to access to the context and related documents.

² Find a list of associated countries and countries automatically eligible for funding here: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation-horizon-euratom_en.pdf



PART A

ENVIRONMENTAL OBSERVATIONS AND THE ESA-EC EARTH SYSTEM SCIENCE INITIATIVE (ESSI)



CLOSED TOPICS FROM 2021 - 2023 AND RESULTING PROJECTS FUNDED UNDER THE ESSI INITIATIVE

HORIZON-CL6-2021

BIODIV-01-03

[BIOcean5D](#) | [MARBEFES](#)

Understanding and valuing coastal and marine biodiversity and ecosystems services

BIODIV-01-04

[ACTNOW](#) | [GES4SEAS](#)

Assess and predict integrated impacts of cumulative direct and indirect stressors on coastal and marine biodiversity, ecosystems and their services

HORIZON-CL6-2021

GOVERNANCE-01-14

[GUARDEN](#) | [B-USEFUL](#)

User-oriented solutions building on environmental observation to monitor critical ecosystems and biodiversity loss and vulnerability in the European Union

GOVERNANCE-01-16

[OEMC](#) | [EO4EU](#)

Tools to support the uptake and accessibility/exploitability of environmental observation information at European and global level

GOVERNANCE-01-07

[TEMBO Africa](#) | [EULIAA](#) | [UAWOS](#) | [GIROCCO](#) | [MISO](#) | [SYLVA](#)

New technologies for acquiring in-situ observation datasets to address climate change effects

HORIZON-CL6-2022

BIODIV-01-01

[MARCO-BOLO](#) | [OBAMA-NEXT](#)

Observing and mapping biodiversity and ecosystems, with particular focus on coastal and marine ecosystems

HORIZON-CL5-2023

D1-01-04

Improved knowledge in cloud-aerosol interaction

HORIZON-CL6-2023

BIODIV-01-3

Interdisciplinary assessment of changes affecting terrestrial and freshwater ecosystems, building on observation programmes

CLIMATE-01-3

Ocean and coastal waters carbon- and biodiversity-rich ecosystems and habitats in Europe and the Polar Regions

CLIMATE-01-8

Closing the research gaps on Essential Ocean Variables (EOVs) in support of global assessments

GOVERNANCE-01-11

Reducing observation gaps in the land-sea interface area

GOVERNANCE-01-16

Digital technologies supporting plant health early detection, territory surveillance and phytosanitary measures

2024 TOPICS UNDER THE ESSI INITIATIVE

2024 TOPIC UNDER THE ESSI INITIATIVE

HORIZON-CL5-2024-D1-01-01


ENHANCED QUANTIFICATION AND UNDERSTANDING OF NATURAL AND ANTHROPOGENIC METHANE EMISSIONS AND SINKS.

Some expected outcomes:

- An enhanced European capacity to understand natural and anthropogenic methane emissions with unprecedented resolution in space and time.
- An increased coordination of in-situ observations of methane emissions including enhancing communication and networking between the relevant observation communities.
- Clear policy advice on current and future climate contributions of methane on global and regional (European) scale, including elaboration on effective mitigation options.

 [Funding & tender opportunities](#)
Single Electronic Data Interchange Area (SADEA)

€ TOTAL INDICATIVE BUDGET
EUR 15.00 million

 INDICATIVE NUMBER OF PROJECTS:
1

 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
05/03/2024



→ Collaboration with ongoing or future [ESA Atmosphere Science Cluster](#) projects.

→ ESA will contribute to this effort by providing a dedicated Earth Observation satellite scientific component.

2024 TOPIC UNDER THE ESSI INITIATIVE

HORIZON-CL5-2024-D1-01-02

INLAND ICE, INCLUDING SNOW COVER, GLACIERS, ICE SHEETS AND PERMAFROST, AND THEIR INTERACTION WITH CLIMATE CHANGE

Some expected outcomes:

- Advanced knowledge on the impacts of climate change and different natural and socioeconomic drivers **on inland ice and permafrost**, and its global repercussions, including climate-ecosystem interactions.
- Improved climate and Earth System Models (ESMs) that inform the international climate assessments (e.g. CMIP models, CORDEX) and support the development of “digital twins” under the Destination Earth Initiative and the evolution of Copernicus.

 [Funding & tender opportunities](#)
Single Electronic Data Interchange Area (SADEA)



2024 TOPIC UNDER THE ESSI INITIATIVE

HORIZON-CL5-2024-D1-01-07

QUANTIFICATION OF THE ROLE OF KEY TERRESTRIAL ECOSYSTEMS IN THE CARBON CYCLE AND RELATED CLIMATE EFFECTS

A comprehensive assessment and quantification of **the role of terrestrial biogeochemical dynamics and the role of vegetation in the carbon cycle**, compared to the pre-industrialisation situation, building on dedicated in situ data collection, novel satellite data development, and advanced carbon cycle modelling.

 [Funding & tender opportunities](#)
Single Electronic Data Interchange Area (SADEA)

€ TOTAL INDICATIVE BUDGET
EUR 22.00 million



→ International cooperation is strongly encouraged.

 INDICATIVE NUMBER OF PROJECTS
3

→ Collaboration with ongoing or future [ESA Polar Science Cluster](#) projects.

 TYPE OF ACTION
Research and Innovation Actions


→ Actions should build upon and cooperate with relevant Horizon funded projects (e.g., Arctic PASSION, OceanIce, PolarRES, CRiceS, iCUPE), the EU Polar Cluster, the Copernicus Climate Change Service, the Copernicus Marine Environment Monitoring Service, the Copernicus Land Monitoring Service and the **GEO** initiative.

 SUBMISSION DEADLINE
05/03/2024

€ TOTAL INDICATIVE BUDGET
EUR 20.00 million



Coordination with projects funded under the [ESA Carbon Science Cluster](#) of the Future EO programme including relevant ESA activities related to the use of the novel BIOMASS and FLEX missions and potentially the Copernicus CO2M mission in the future.

 INDICATIVE NUMBER OF PROJECTS
2

 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
05/03/2024

2024 TOPIC UNDER THE ESSI INITIATIVE

HORIZON-CL3-2024-DRS-01-04

HI-TECH CAPACITIES FOR CRISIS RESPONSE AND RECOVERY AFTER A NATURAL-TECHNOLOGICAL (NATECH) DISASTER

Development of **a holistic vision of crisis management** after telluric (e.g. volcanic, seismic, tsunami, landslide) or extreme climate events (e.g. floods, storms, storm surges, fires, droughts) producing impacts on critical assets (e.g. infrastructures, industries) and creation of new management framework for handling NaTech crises.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)



2024 TOPIC UNDER THE ESSI INITIATIVE

HORIZON-CL3-2024-DRS-01-03

HARMONISED / STANDARD PROTOCOLS FOR THE IMPLEMENTATION OF ALERT AND IMPACT FORECASTING SYSTEMS AS WELL AS TRANSNATIONAL EMERGENCY MANAGEMENT IN THE AREAS OF HIGH-IMPACT WEATHER / CLIMATIC AND GEOLOGICAL DISASTER

Europe is confronted with increasingly intense natural disasters ranging from floods and heavy rain events to droughts and large-scale forest fires even in hitherto not affected regions, as well as other geohazards such as volcanic eruptions and landslides. To respond to these emerging challenges an **integrated transnational emergency management** is needed efficiently linking systems available at the European level such as, for example, the Copernicus Emergency Management Service, with national, regional or local systems. Furthermore, an evaluation of applied disaster risk reduction methods is required, in particular alert and impact forecasting systems, to identify potential for improvement and constant innovation.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)

€ TOTAL INDICATIVE BUDGET
EUR 4.00 million

 INDICATIVE NUMBER OF PROJECTS
1

 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
20/11/2024



Proposals should include a work package, means and resources for coordination with complementary projects funded under the ESA FutureEO initiative.

€ TOTAL INDICATIVE BUDGET:
EUR 6.00 million

 INDICATIVE NUMBER OF PROJECTS
2

 TYPE OF ACTION
Innovation Actions

 SUBMISSION DEADLINE
20/11/2024



→ Proposals should include a work package, means and resources for coordination with complementary projects funded under the Science for Society element of the ESA FutureEO programme.

→ The project(s) should establish a close coordination and collaboration with the relevant ESA relevant actions and projects (<https://eo4society.esa.int>).



Part B

TOPICS IN SUPPORT OF EUROGEO, GEO AND ITS INITIATIVES



TOPIC IN SUPPORT OF EUROGEO, GEO AND ITS INITIATIVES

HORIZON-CL6-2024-GOVERNANCE-01-5

CUSTOMISATION/PRE-OPERATIONALISATION OF PROTOTYPES END-USER SERVICES IN THE AREA CLIMATE CHANGE ADAPTATION AND MITIGATION

This PCP – i.e. a joint procurement of research and development services - is launched to reinforce public **demand driven innovation in end-user services in the area of climate adaptation and mitigation** and to close the gap between supply and demand for innovative solutions.

The PCP should deliver successful innovative and fully tested product(s) and/or service(s) that meet the common needs of a buyers' group (consortium of procurers) to procure research, develop innovative marketable solutions, speed up the time-to-market and provide best value for money.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)



TOPIC IN SUPPORT OF EUROGEO, GEO AND ITS INITIATIVES

HORIZON-CL6-2024-GOVERNANCE-01-6

DEVELOP INNOVATIVE APPLICATIONS TO SUPPORT THE EUROPEAN GREEN DEAL, BUILDING ON METEOROLOGICAL SATELLITE DATA

This activity will deliver new environmental information and pre-operational European services based on the Meteosat Third Generation (MTG) and EUMETSAT Polar System Second Generation (EPS SG) data, other digital infrastructures, and modelling capabilities. The tools and services developed under the successful applications should be made available for future integration in the Copernicus programme and in the common topical European open infrastructure, Destination Earth.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)

 TOTAL INDICATIVE BUDGET
EUR 19.00 million



Builds on the outcomes of HORIZON-CL6-2021-GOVERNANCE-01-15 topic and the work done previously under Horizon 2020 and Horizon Europe, as well as EuroGEO and other GEO initiatives.

 INDICATIVE NUMBER OF PROJECTS
1


 TYPE OF ACTION
Pre-Commercial Procurement

 SUBMISSION DEADLINE
28/02/2024

 TOTAL INDICATIVE BUDGET
EUR 8.00 million



Ensure collaboration with EuroGEO and the relevant EuroGEO projects as well as ESA initiatives (such as [E04SD](#)).

 INDICATIVE NUMBER OF PROJECTS
2

 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
28/02/2024

TOPIC IN SUPPORT OF EUROGEO, GEO AND ITS INITIATIVES

HORIZON-CL6-2024-CLIMATE-01-7

EU-CHINA INTERNATIONAL COOPERATION ON IMPROVING MONITORING FOR BETTER INTEGRATED CLIMATE AND BIODIVERSITY APPROACHES, USING ENVIRONMENTAL AND EARTH OBSERVATION

- This topic is aiming to maximise synergies between biodiversity conservation and climate mitigation and adaptation based on improve terrestrial monitoring of biodiversity and ecosystems.
- It will furthermore advance science to support integrated climate and biodiversity actions on natural and managed ecosystems and associated economic sectors.
- It will do so by advancing solutions for monitoring, assessment and projections to support decision-making in better integrated climate and biodiversity policies in terrestrial ecosystems generally.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)



TOPIC IN SUPPORT OF EUROGEO, GEO AND ITS INITIATIVES

HORIZON-CL6-2024-BIODIV-01-2

DIGITAL FOR NATURE

Projects are expected to contribute, among others, to a better understanding of the state of nature and of the drivers of biodiversity loss (linked to direct human activity, to climate change, etc...) in order to support the implementation of the EU biodiversity strategy for 2030.

- Area A: focussing on data harvesting through high-throughput methods (e.g. environmental DNA, sound/image analysis, lidar, spectrometry, usage of mobile platforms, remote-sensing, etc.), analysis and interoperability solutions;
- Area B: focussing on new robotic solutions, including mobile, to improve the efficiency of biodiversity related solutions, allowing to improve the performance of the field campaign, with denser information of species and habitats.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)

€ TOTAL INDICATIVE BUDGET
EUR 5.00 million



→ The successful proposal should strengthen cooperation between the EU and China, also in the context of the **Group on Earth Observations** initiatives.

 INDICATIVE NUMBER OF PROJECTS
1

 TYPE OF ACTION
Research and Innovation Actions


 SUBMISSION DEADLINE
22/02/2024

→ This topic is part of the EU-China flagship initiative on Climate Change and Biodiversity and within the scope of the Administrative Arrangement between the European Commission and the Ministry of Science and Technology of the People's Republic of China on a Co-funding Mechanism for the period 2021-2024.

€ TOTAL INDICATIVE BUDGET
EUR 16.00 million



→ International cooperation is encouraged.

 INDICATIVE NUMBER OF PROJECTS
2

→ Activities are expected to achieve TRL 6-7 by the end of the project.

 TYPE OF ACTION
Innovation Actions

 SUBMISSION DEADLINE
22/02/2024

TOPIC IN SUPPORT OF EUROGEO, GEO AND ITS INITIATIVES

HORIZON-CL6-2024-BIODIV-01-5

TRANSFORMATIVE ACTION OF POLICY MIXES, GOVERNANCE AND DIGITALISATION ADDRESSING BIODIVERSITY LOSS

In line with the European Green Deal priorities, in particular with the EU biodiversity strategy for 2030 and the 2030 climate pact, successful proposals will **develop knowledge and tools to understand the role of transformative change for biodiversity policy making**, address the indirect drivers of biodiversity loss, and initiate, accelerate and upscale biodiversity-relevant transformative changes in our society. They will also help understanding the impacts of and the opportunities offered by digital transformation, new emerging technologies, and social innovation on biodiversity.

 [Funding & tender opportunities](#)
Single Electronic Data Interchange Area (SADEA)



€ TOTAL INDICATIVE BUDGET
EUR 4.00 million

 INDICATIVE NUMBER OF PROJECTS
2

 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
22/02/2024



Where relevant, projects are expected to create links to and use information, data and impact-related knowledge from the European Earth observation programme Copernicus, the **ESA EO4SD initiative**, the Group on Earth Observations (GEO) and the Global Earth Observation System of Systems (GEOS).





PART C

OTHER SELECTED TOPICS IN WP 2023-2024 WITH RELEVANCE FOR ENVIRONMENTAL OBSERVATIONS

European
CommissionResearch &
Innovation

TOPIC IN WP 2023-2024 WITH RELEVANCE FOR ENVIRONMENTAL OBSERVATIONS

HORIZON-CL6-2024-BIODIV-01-1

INVASIVE ALIEN SPECIES

Among others, the projects should develop methods for the identification, early detection and surveillance of invasive alien species, such as sensors for biophysical signals (sounds, ultrasounds, volatile organic compounds, thermal etc.), DNA-based including barcoding and application of environmental DNA, artificial intelligence, sentinel plants in ports, airports, railway stations, and logistics platforms. The use of robotics (both aerial and non-aerial), especially in marine environments, could be considered.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)



TOPIC IN WP 2023-2024 WITH RELEVANCE FOR ENVIRONMENTAL OBSERVATIONS

HORIZON-CL6-2024-BIODIV-01-8

CONSERVATION AND PROTECTION OF CARBON-RICH AND BIODIVERSITY-RICH FOREST ECOSYSTEMS

Among other expected outcomes, projects should improve monitoring techniques, including remote-sensing and field-data methods integrating technologies such as AI, IoT, robotics or blockchain, to better assess biodiversity and climate aspects of forests.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)

€ TOTAL INDICATIVE BUDGET
EUR 12.00 million



International cooperation is encouraged.

 INDICATIVE NUMBER OF PROJECTS
2


 TYPE OF ACTION
Innovation Actions

 SUBMISSION DEADLINE
22/02/2024

€ TOTAL INDICATIVE BUDGET
EUR 12.00 million



→ International cooperation is strongly encouraged.

 INDICATIVE NUMBER OF PROJECTS
2

 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
22/02/2024

→ The project must implement the multi-actor approach and ensure an adequate involvement of the primary production sector and the wider forest-based value chain.

TOPIC IN WP 2023-2024 WITH RELEVANCE FOR ENVIRONMENTAL OBSERVATIONS

HORIZON-CL6-2024-CLIMATE-01-4

LAND USE CHANGE AND LOCAL / REGIONAL CLIMATE

- Seeking for solutions to understanding, modelling and optimising the relationships between net removals from Land Use, Land Use Change and Forestry (LULUCF) and biogenic emissions from the agriculture sector at local / regional level, including the use of remote sensing technologies (Copernicus) combined with innovative processing and AI;
- Develop strategies at local and regional level to deal with impacts of climate change and to maximise co-benefits for other objectives, including biodiversity protection.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)

 TOTAL INDICATIVE BUDGET
EUR 12.00 million

 INDICATIVE NUMBER OF PROJECTS
2

 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
22/02/2024



TOPIC IN WP 2023-2024 WITH RELEVANCE FOR ENVIRONMENTAL OBSERVATIONS

HORIZON-CL6-2024-CLIMATE-01-6

OCEAN MODELS FOR SEASONAL TO DECADAL REGIONAL CLIMATE IMPACTS AND FEEDBACKS

Projects results are expected to contribute, among others, to the following outcomes:

- Demonstration of the fit for purpose and configuration of ocean models, for climate change impact assessment in European sea basins and coastal areas, in particular on marine ecosystems;
- Development of indicators on ocean status and health, targeted towards territorial decision-makers, complementary to current Global Climate Observing System (GCOS) Essential Climate Variables or Copernicus Ocean State Reports;
- Integration of the developments in the digital perspective, interoperable and/or integrable with Destination Earth and the Digital Twin Ocean.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)

 TOTAL INDICATIVE BUDGET
EUR 9.00 million

 INDICATIVE NUMBER OF PROJECTS
2

 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
22/02/2024



→ Synergies and complementarities:
HORIZON-CL6-2023-CLIMATE-01-08:
Closing the research gaps on ocean Essential Climate Variables (ECVs) in support of global assessments, relevant EU Research Infrastructures.

→ Activities are expected to achieve TRL 3-5 by the end of the project

TOPIC IN WP 2023-2024 WITH RELEVANCE FOR ENVIRONMENTAL OBSERVATIONS

HORIZON-HLTH-2024-ENVHLTH-02-06-TWO-STAGE

THE ROLE OF ENVIRONMENTAL POLLUTION IN NON-COMMUNICABLE DISEASES: AIR, NOISE AND LIGHT AND HAZARDOUS WASTE POLLUTION.

Project results are expected to contribute, among others, to the following activities:

- Research activities to strengthen the evidence base for pollution-disease associations and underlying causality mechanisms and biological pathways, taking into account combined exposures and mechanisms of increased sensitivity in susceptible groups;
- Delivery of FAIR data on causal associations between environmental risk factors and health outcomes, in particular for air pollutants of emerging concern, specifically ultrafine particles, black carbon, and others, taking into account vulnerable population groups and specific exposure situations in a life-course approach including vulnerable early-stages of life and transgenerational risks.

 [Funding & tender opportunities](#)
Single Electronic Data Interchange Area (SADEA)




TOPIC IN WP 2023-2024 WITH RELEVANCE FOR ENVIRONMENTAL OBSERVATIONS

HORIZON-CL5-2024-D5-01-07


ACCELERATING CLIMATE NEUTRAL AVIATION, MINIMISING NON CO₂ EMISSIONS

Project results should focus to the minimisation of aviation non-CO₂ emissions. Project results are expected to contribute, among others, to the following outcomes:

- increase the scientific understanding related to the impact of aerosols on clouds as well as the contribution of aviation NOx emissions to climate change.

 [Funding & tender opportunities](#)
Single Electronic Data Interchange Area (SADEA)

 TOTAL INDICATIVE BUDGET
EUR 60.00 million

 INDICATIVE NUMBER OF PROJECTS
8


 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
first stage 19/09/2023
second stage 11/04/2024



This topic requires the effective contribution of social sciences and humanities (SSH) disciplines and the involvement of SSH experts, institutions as well as the inclusion of relevant SSH expertise, in order to produce meaningful and significant effects enhancing the societal impact of the related research activities.

 TOTAL INDICATIVE BUDGET
EUR 17.00 million

 INDICATIVE NUMBER OF PROJECTS
4

 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
18/04/2024



Activities are expected to achieve TRL 2-4 by the end of the project.

TOPIC IN WP 2023-2024 WITH RELEVANCE FOR ENVIRONMENTAL OBSERVATIONS

HORIZON-CL4-2024-SPACE-01-35

COPERNICUS FOR LAND AND WATER

Expected outcomes are, among others:

- Enhanced quality and efficiency of the Copernicus Land Monitoring service to respond respectively to several Green Deal policy and/or user requirements, including those related to the EU mission: «Climate neutral and smart cities», and to technological developments.
- Development of a common leading-edge approach across services, and in the area of hydrological modelling considering cross services approaches and all relevant Copernicus service products.
- Development of new algorithms and processing chains.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)

€ TOTAL INDICATIVE BUDGET
EUR 4.00 million



→ Two different areas of R&I. A proposal should address only one area, which must be clearly identified.

 INDICATIVE NUMBER OF PROJECTS
2

→ Activities are expected to achieve TRL 5-6 by the end of the project.

 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
20/02/2024

TOPIC IN WP 2023-2024 WITH RELEVANCE FOR ENVIRONMENTAL OBSERVATIONS

HORIZON-CL4-2024-SPACE-01-36

COPERNICUS FOR SECURITY


Project results are expected to contribute to various objectives, such as the integration of the Geospatial Artificial Intelligence (GeoAI) and Earth Observation data analytics with a variety of other application-specific data sources like data from remote sensors accessed through IoT, as well as crowd-sourced data, high velocity transnational data and social media posts.

 **Funding & tender opportunities**
Single Electronic Data Interchange Area (SADEA)

€ TOTAL INDICATIVE BUDGET
EUR 8.00 million



Activities are expected to achieve TRL 5-6 by the end of the project.

 INDICATIVE NUMBER OF PROJECTS
2

 TYPE OF ACTION
Research and Innovation Actions

 SUBMISSION DEADLINE
20/02/2024

TOPIC IN WP 2023-2024 WITH RELEVANCE FOR ENVIRONMENTAL OBSERVATIONS

HORIZON-INFRA-2024-EOSC-01-01

FAIR AND OPEN DATA SHARING IN SUPPORT OF THE MISSION ADAPTATION TO CLIMATE CHANGE

The overall objective of this topic is to accelerate research and innovation under the mission climate adaptation through better access, management, interoperability, reuse and citation of digital information, to be achieved by using and integrating EOSC resources ranging from EOSC federated infrastructures, services and data to guidelines, best practices, tools and metrics for the management of FAIR and open data, and to extend these resources to the relevant climate adaptation domains that are less familiar with EOSC.

Funding & tender opportunities

Single Electronic Data Interchange Area (SADEA)



TOTAL INDICATIVE BUDGET
EUR 16.00 million



INDICATIVE NUMBER OF PROJECTS
2



TYPE OF ACTION
Research and Innovation Actions



SUBMISSION DEADLINE
12/03/2024



Proposals are expected to cooperate and align with activities of the EOSC Partnership and to coordinate with relevant initiatives and projects contributing to the development of EOSC.

USEFUL LINKS

HORIZON EUROPE

<https://europa.eu/!9CrMyC>

HORIZON EUROPE Information days (Infodays):

<https://europa.eu/!gBfmnd>

Work Programme 2023-24
Cluster 5:

<https://europa.eu/!vPBn9Q>

Work Programme 2023-24
Cluster 6:

<https://europa.eu/!gFc4XJ>

HORIZON EUROPE Funding and Tenders Portal:

<https://europa.eu/!jH76RF>



GET SUPPORT

<https://europa.eu/!xkxrf4>

The Group on Earth Observations (GEO):

<https://www.earthobservations.org/index.php>

The ESA-EC Earth Systems Science Initiative (ESSI):

<https://eo4society.esa.int/communities/scientists/ec-esa-joint-initiative-on-earth-system-science/>

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EU law and related documents

For access to legal information from the EU, including all EU law since 1951 in all the official language versions, go to EUR-Lex (eur-lex.europa.eu).

EU open data

The portal data.europa.eu provides access to open datasets from the EU institutions, bodies and agencies. These can be downloaded and reused for free, for both commercial and non-commercial purposes. The portal also provides access to a wealth of datasets from European countries.

Environmental Observations (EO) provides the necessary evidence for environmental policies, playing at the same time an important role in various economic sectors (energy, agriculture, transportation etc.) accompanied by increasing research and technological development in the relevant fields.

The EU supports research and innovation for Environmental Observing Systems mainly through Horizon Europe (HE), the EU's programme for Research and Innovation while operational observing systems at EU level are implemented through the EU Space programme, in particular its EO component Copernicus. This brochure presents upcoming funding opportunities in the field of EO in Horizon Europe (HE) work programme for 2024, in the context of the Earth System Science Initiative (ESSI) which was launched in cooperation with the European Space Agency (ESA), also topics in support and coordination with the Group on Earth Observation (GEO), and other selected topics related to EO.

Studies and reports

