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The **Pioneer Earth Observation applications for Ecosystem Accounting (PEOPLE-EA)** project was possible due to the financial support from the European Space Agency (ESA). Technical guidance and feedback from ESA were provided by Marc Paganini.

The project was supported through active participation with ecosystem accounting Early Adopters, either National Statistical Offices (NSOs) or their country representatives. The project highly appreciated the contribution of:

- **University of Patras (Greece)**, through the Department of Biology, Laboratory of Botany, leads the MAES (Mapping and Assessment of Ecosystems and their Services) implementation in Greece and maintains natural capital accounting under several R&D projects.
- **Italian National Institute of Statistics and National Institute for Environment Protection and Research (IT)** in joint collaboration, have the mandate to monitor ecosystems at national level and producing ecosystem accounts.
- **Centraal Bureau voor de Statistiek (CBS)** is the Dutch national statistical office. CBS is responsible for the independent publication of all national statistics, as well as a wide range of innovative statistics and statistical reports. In the department of National Accounts, the team of environmental accounts is responsible for the development of ecosystem accounts, consistent with international SEEA EA guidelines.
- **Statistics Norway (NO)** is a professionally independent institution and the central authority for the development, production and dissemination of official statistics in Norway. Statistics Norway, one of few statistical agencies with a research department, also conducts extensive research and analysis activities and, through the EEA Agreement, is an integral part of the European Statistical System.
- **Institute of Landscape Ecology of the Slovak Academy of Sciences (SK)** is an interdisciplinary scientific institution for basic and applied research in landscape ecology. It is a governmental research organization that is a part of the Slovak Academy of Sciences.

The project was further supported by the participants of the International Workshop (Athens, May 2024) which provided valuable inputs and feedback on the Evolution Roadmap.

Finally, the project team also thanks the VTT (Technical Research Centre of Finland Ltd), leading the Forest Carbon Monitoring, and Gamma Research, leading the Climate Change Initiative on Biomass for their valuable inputs related to carbon datasets.

EXECUTIVE SUMMARY

The Pioneer Earth Observation applications for the Environment Ecosystem Accounting (PEOPLE-EA) project studied and demonstrated the relevance of integrating Earth Observations for the System of Environmental Economic Accounting – Ecosystem Accounts (SEEA EA) in terrestrial and freshwater ecosystems. The SEEA EA constitutes an integrated and comprehensive statistical framework for organizing data about habitats and landscapes, measuring the ecosystem services, tracking changes and linking this information to economic and other human activity. The framework is more and more positioned as a firm base for several international policies (Convention of Biological Diversity, Sustainable Development Goals, Climate Change, Green Growth strategy, and ecosystem restoration).

The PEOPLE-EA project was implemented between October 2022 and October 2024 with financial support from the European Space Agency (ESA). VITO, a research center in Belgium, led the project with support from BC3 Research (Spain), Ecounting (the Netherlands) and University of Patras (Greece). The project involved active participation of five National Statistical Agencies, or their representatives, known as Early Adopters: Central Bureau for Statistics (the Netherlands), Statistics Norway (Norway), Italian National Institute of Statistics and National Institute for Environment Protection and Research (Italy), University of Patras (Greece), and the Institute of Landscape Ecology of the Slovak Academy of Sciences (Slovakia).

The project developed of a system-of-systems, the **Aries for People Explorer**, combining the ARIES, OpenEO and INCA technologies in one single system. This system enables to use the best available models and data given the context (place and time on earth). The use of Earth Observation for ecosystem accounts was demonstrated by the development of five toolboxes (workflows). The workflow for **EUNIS habitat mapping and ecosystem extent accounting** was demonstrated in Slovakia and Greece and has formed a base for further development through the World Ecosystem Extent Dynamics project. The workflow for **forest condition accounts** enables the generation of European compliant accounts across the entire continent, from 2000 till date. The workflow was fully integrated in the Aries for People Explorer. Initial workflows were developed for **coastal condition, wood provision and nature-based tourism**. In total 16 demonstrating accounts were created crossing five European countries. Most tools are available under Findable, Accessible, Interoperable, Reproducible (FAIR) principles with a code base available on GitHub (<https://github.com/integratedmodelling/OpenEO-UDP-UDF-catalogue>), or can be requested.

The demonstrations using the tools and the accounts were evaluated by the Early Adopters and were found very valuable and despite being experimental, are already being used for policy use as they reach more precision and better level of detail. Several improvements were identified from these demonstrations, next to an evolution roadmap that identifies the main R&D topics to further upscale the use of Earth Observation in ecosystem accounting.

Outreach and communication during PEOPLE-EA included the project website, the hosting of an International Workshop, presentations at Norwegian Environment workshop, EC-ESA Joint Earth System Science Initiative, UNSD Conference on Big Data, IUCN Regional Conservation Forum and the Ecosystem Services Partnership conference in Europe and the London Group for Environmental Accounting. Three more presentations are expected to be done in 2025. Furthermore, an online webinar (training) was conducted, one scientific publication on the role of Earth observation in ecosystem accounting was already published and three more papers are in preparation.

1. Need for ecosystem accounting

Ecosystem accounting is becoming increasingly important due to several interconnected reasons related to the environmental, social, and economic dimensions of sustainability. Amongst others, ecosystem accounts can provide essential information for policy use to **Halt Environmental Degradation and Loss of Biodiversity**. Ecosystem services (like clean air, water purification, climate regulation, and pollination) are vital to human well-being and the health of the planet. However, these services are being threatened by human activities, such as deforestation, pollution, and urbanization. Ecosystem accounting helps track the loss or degradation of these services and highlights the impact on biodiversity, allowing for better-informed decisions to halt or reverse this decline. **Value Natural Capital**. Traditional economic accounting systems often fail to recognize the value of natural resources and ecosystems. By integrating ecosystems into national accounts, we can better understand the economic significance of nature and ensure that the environment's contributions are acknowledged in decision-making. This helps to move beyond the mindset that the economy can grow indefinitely without considering the finite nature of resources, encouraging a shift toward more sustainable practices. **Inform Policy and Decision-Making**. Governments, businesses, and institutions can use ecosystem accounting to make more informed decisions about resource use, land management, and conservation efforts. It enables decision-makers to understand the full impact of policies and projects on ecosystems and human well-being, leading to policies that are more aligned with sustainability goals. **Support the Sustainable Development Goals**. The UN Sustainable Development Goals (SDGs), especially those related to environmental sustainability (e.g., SDG 13 on climate action, SDG 14 on life below water, and SDG 15 on life on land), require accurate and comprehensive data on ecosystem health and services. Ecosystem accounting helps measure progress toward these goals and ensures that environmental considerations are integrated into national accounting systems. **Integrate Nature into Economic Systems**. By including ecosystems in economic accounting, we can better measure the costs of environmental degradation and the benefits of ecosystem restoration or conservation. It shifts the focus from short-term economic gains to long-term environmental sustainability, creating a more comprehensive view of economic development. When ecosystems are not accounted for in economic systems, they often suffer from overuse and mismanagement (e.g., overfishing, deforestation). Ecosystem accounting helps ensure that natural resources are sustainably managed, preventing depletion and degradation. **Climate Change mitigation and adaptation**. Ecosystems play a critical role in climate change mitigation (e.g., forests as carbon sinks) and adaptation (e.g., wetlands that protect against floods). Understanding how ecosystems function and their role in the climate system is crucial for designing effective climate policies. Ecosystem accounting helps assess the potential of ecosystems to support climate resilience and informs strategies for carbon sequestration and other nature-based solutions. **Business and Corporate Responsibility**. More businesses are recognizing the importance of natural capital in their operations. Ecosystem accounting helps companies understand the environmental risks and opportunities associated with their activities, allowing them to align their operations with environmental sustainability goals. This can improve corporate responsibility, reduce costs (e.g., from resource depletion), and enhance reputation. **Monitoring and Reporting Environmental Changes**. Ecosystem accounting provides a framework to track changes in ecosystems over time. This allows for early detection of harmful trends (e.g., desertification, loss of forests, or coral reef degradation), and enables targeted interventions to address these issues. **Global Environmental Collaboration**. Ecosystem accounting provides a common language for understanding and addressing environmental issues at a global scale. By establishing consistent and comparable data, it fosters international collaboration to tackle pressing global challenges like climate change, biodiversity loss, and pollution.

In summary, ecosystem accounting is necessary to ensure that the natural environment is adequately considered in economic planning, policy-making, and corporate strategies. It enables us to assess the true costs of environmental damage and the benefits of preserving and restoring ecosystems, ultimately supporting a more sustainable, balanced relationship between humans and nature.

2. Project Objective

In response to the policy drivers and requirements organization implementing ecosystem accounting, the objective of the **Pioneer Earth Observation applications for Ecosystem Accounting (PEOPLE-EA)** project was to study the relevance of Earth Observation observations for System of Environmental Economic Accounting (SEEA) compliant ecosystem accounting and to demonstrate its use for terrestrial and freshwater ecosystems.

2.1 Project Team

The PEOPLE-EA project was led by the **Flemish Institute for Technological Research (VITO)** – a leading European independent research and technology organization in the areas of cleantech and sustainable development. The VITO Remote Sensing unit provides technical solutions in applying Earth Observation and large-scale geospatial data processing to better manage, predict and control our scarce natural resources.

The VITO-led PEOPLE-EA consortium included:

- The **Basque Centre for Climate Change (BC3)** is an international and multidisciplinary research institute based in Bilbao, Spain. BC3 is devoted to advancing scientific knowledge of climate change causes and impacts relevant to decision-making by integrating environmental, socioeconomic, and ethical dimensions of climate change.
- **Ecounting** is an SME specialised in providing services in the field of Ecosystem Accounting. Ecounting staff has been involved in the development of the System of Environmental Economic Accounting - Ecosystem Accounting (2014 - 2021), and has been involved in advising on the compilation of ecosystem accounts in various countries. Ecounting also has expertise in spatial modelling and using earth observation data for ecosystem accounting.
- **University of Patras (UPATRAS)** is the 3rd largest University in Greece. The Department of Biology - Laboratory of Botany focuses on the documentation and mapping of biodiversity (species, habitats, ecosystems and leads the MAES (Mapping and Assessment of Ecosystems and their Services) implementation in Greece, develops natural capital indicators and mainstreams natural capital accounting processes in Greece. UPATRAS act in a dual-role, both being technical partner and acting as representative for the Greek National Statistical Office.

2.2 Early Adopters

The Early Adopters are the National Statistical Offices (NSOs), or their representatives, active in ecosystems accounting with an interest in the novel EO solutions developed by the project for use in their work. The Early Adopters participated in the design and development and evaluation of the EO solutions.

- **Centraal Bureau voor de Statistiek (NL)** is the Dutch national statistical office. CBS is responsible for the independent publication of all national statistics, as well as a wide range of innovative statistics and statistical reports. In the department of National Accounts, the team of environmental accounts is responsible for the development of ecosystem accounts, consistent with international SEEA EA guidelines. CBS has worked on ecosystem accounting since 2015, and is also very active in international work on ecosystem accounting. CBS is represented in the Eurostat Taskforce on ecosystem accounting and has contributed substantially to the development of the SEEA EA guidelines.
- **Statistics Norway (NO)** is a professionally independent institution and the central authority for the development, production and dissemination of official statistics in Norway. Statistics Norway, one of few statistical agencies with a research department, also conducts extensive research and analysis activities and, through the EEA Agreement, is an integral part of the European Statistical System. Statistics Norway reports to the Ministry of Finance and is subject to the provisions of the Statistics Act. For some years, the institution has quite modestly

experimented with earth observation data, mainly for monitoring land change and crop classification. Statistics Norway and the Norwegian Environment Agency collaborate closely on developing national ecosystem accounting. The Norwegian Environment Agency has the overall responsibility for all nature components of the ecosystem accounting, including coordinating the work on mapping ecosystem extent and evaluating ecosystem condition.

- **University of Patras (EL)**, through the Department of Biology, Laboratory of Botany, leads the MAES (Mapping and Assessment of Ecosystems and their Services) implementation in Greece and maintains natural capital accounting under several R&D projects. The team members have a strong track record also in policy and governance analysis suggesting future steps and possible solutions to conservation managers, decision- and policy- makers, while simultaneously highlight and communicate key issues to stakeholders and the general public, targeting to stimulate engagement and awareness-raising.
- **Italian National Institute of Statistics and National Institute for Environment Protection and Research (IT)** in joint collaboration, have the mandate to monitor ecosystems at national level and producing ecosystem accounts. The team has a large experience in the use of biophysical models for land cover/use mapping, provisioning services and regulating services. They are both represented in the Eurostat Taskforce on ecosystem accounting and have already explored several options to generate ecosystem accounts at national and regional scale.
- **Institute of Landscape Ecology of the Slovak Academy of Sciences (SK)** is an interdisciplinary scientific institution for basic and applied research in landscape ecology. It is a governmental research organization that is a part of the Slovak Academy of Sciences. The current research focus is mainly on developing novel satellite-based products for landscape monitoring, land change detection, early season crop classification, detection of grassland management and vegetation status assessment. ILE SAS participated in numerous research projects in the fields relevant for the ecosystem accounting and Earth observation. They have been involved in a national MAES working group established by the Ministry of the Environment of the Slovak Republic, responsible for the implementation of MAES process in Slovakia.

3. Activities and Outputs

The PEOPLE-EA project was implemented between September 2022 and September 2024 in three consecutive tasks, described in the follow sections. Public outputs are depicted with a (P), while non-public or restricted outputs are depicted with a (R).

3.1 Task A Value-Proposition consolidation

The PEOPLE-EA project team assessed the current state of the art, policy agendas, and the requirements of stakeholders and Early Adopters, which led to our rationale for demonstrations and proposed EO tools focused on ecosystem accounting, covering the three types of ecosystem accounts (extent, condition, and service).

The outputs were:

- D1 – Collaboration description with the Early Adopters (R).
- D2 – Report on a) state-of-the-art review on the relevant EO algorithms, methods, models, non-EO data and information technology; b) review of relevant major ongoing projects/initiatives and broad stakeholder groups analysis; c) policy analysis and traceability matrix (P).
- D3 – Specific Value Proposition Analysis report for the selected Early Adopters (R).
- D4 – Agile Development Plan (R).
- D6 – Validation Methodology (VM), presenting the initial algorithm/method trade-off analysis (R).

3.2 Task B Agile Development and Validation

The PEOPLE-EA project team implemented iterative Agile methods that are responsive to changing user needs. The key parts of our agile development approach include creating and maintaining the product backlog; conducting sprint planning meetings to prepare for an upcoming sprint; executing a sprint; and conducting sprint review and retrospective meetings.

Findable, Accessible, Interoperable, Reproducible (FAIR) principles were followed to ensure that all algorithms and products are available to the community on publicly accessible environments with transparent access conditions. Embracing the FAIR principles enhances the knowledge sharing and open-science processes.

The outputs were:

- D5 – Agile Development Progress Review report (R).
- D7 – Algorithm Theoretical Baseline Documents (ATBDs) and achieved products specifications (P).
- D8 – Documentation associated to the developed software (P).
- D9 – Early Adopters Demonstrator assessment report (R).
- D10 – Report on the successful integration into a platform environment (P).

3.3 Task C Outreach and Roadmap definition

The PEOPLE-EA project team's overarching strategy was to promote the awareness, interest, and direct engagement and interactions of the Early Adopters, stakeholders, and other potential users of the PEOPLE-EA tools.

The outputs were:

- D11 - Communication website (P).
- D12 - Webinar and Workshop (P).
- D13 - User Handbook (P).
- D14 - Policy Highlights (P).
- D19 - Evolution roadmap (P).
- D22 - Two scientific publications (P), three more in preparation

4. Tools & Documentation

4.1 Ecosystem extent account



Ecosystem extent accounts provide information on the size of ecosystem assets (contiguous spaces of a specific ecosystem type characterized by a distinct set of biotic and abiotic components and their interactions) and changes over time in terms of spatial area. Ecosystem extents form the base for all other ecosystem accounts, however, can also be used directly for land management policies.

A prototype toolbox has been developed in python to transform EO time series data into maps, first EUNIS habitat maps and thereafter ecosystem extent maps according to the European ecosystem typology. These maps are used as a base to account for ecosystem extent. The prototype toolbox is being integrated and enhanced in the ESA World Ecosystem Extent Dynamics project.

4.2 Ecosystem condition accounts



Ecosystem condition accounts provide a consistent framework for the observation, monitoring, reporting and analysis of past trends and present condition of ecosystem types. They can guide investments in the conservation or restoration of degraded ecosystems and can maintain the ecological value of ecosystems in policy making and implementation.

An OpenEO toolbox has been developed to calculate several forest condition variables to support forest ecosystem accounts according to a European reference system but optimized for the use of Earth Observation. This toolbox was integrated in the Aries4People application/platform. A second toolbox, a prototype in python, was developed to account for the share of imperviousness in coastal areas, being a condition indicator for coastal ecosystems.

4.3 Ecosystem service accounts



Ecosystem service accounts record the supply of ecosystem services by ecosystem assets (see ecosystem extent account) and the use of those services by economic units, including households. They can be expressed in physical and monetary accounts. They can guide many applications to obtain a sustainable economy where people and businesses live in harmony with nature.

A workflow was prototyped in python to account for wood provision ecosystem services, based on a set of Copernicus and other Earth Observation derived products (tree cover density, forest loss, gross dry matter productivity). A second workflows was prototyped in python to create (more) dynamic Recreation Potential Maps, used to assign tourism statistics to nature visits. These maps are typically based on maps with low update frequency (every six years) and through integrating Earth Observation data more realistic assignments can be given, taking into account forest fires, water quality, etc.

4.4 Platform integration

Based on the experiences by two technology project partners, VITO and BC3-Research, their respective innovative solutions were capitalized by connecting different available systems seamlessly, therefore harnessing the power of their integration. The system-of-systems, called the ARIES for PEOPLE-EA, is an application developed to generate accounts, taking the best available model and data (context awareness) using semantic technologies. Access to Earth Observation data, and their relevant processing to make them account ready data (AccoRD) as well as European Models (INCA service models) were integrated. The web-based application shows the integration through the soil erosion service and a full forest condition account across the European continent.

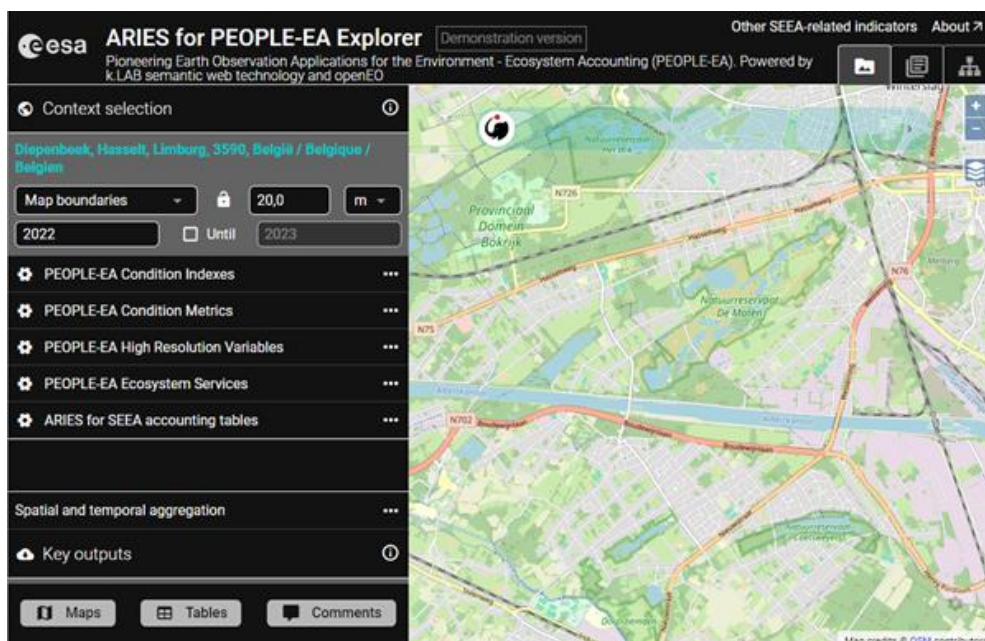





Figure 1. Aries for People-EA Explorer application

This system-of-systems forms the base for further ecosystem monitoring and accounting applications, as will be the World Ecosystem Extent Dynamics.

5. Demonstrators

The PEOPLE-EA project has generated 16 demonstrating accounts, crossing 5 European countries and 5 ecosystem account types.

Figure 2. Pilot demonstrator accounts

Ecosystem account type	Ecosystem account	Greece	Italy	Norway	Slovakia	the Netherlands
	Ecosystem extent	X			X	
	Forest ecosystem condition	X	X	X	X	X
	Coastal ecosystem condition	X	X			X
	Wood provision ecosystem service	X	X	X	X	
	Nature-based tourism ecosystem service	X		X		

Note a sixth ecosystem account, the global climate regulation service account, was explored but demonstrator accounts could not be generated due to limitations found in the EO input datasets.

More information of the results can be found on the website under <https://esa-people-ea.org/en/results/demonstrator-accounts>.

6. Communication and User engagement

The objective for communication and user engagement around the PEOPLE-EA tools was to raise awareness with the National Statistical Offices, or their representatives, of potential of integrating Earth Observation data in ecosystem accounts.

Key tools included the project website (Figure 3), hosting the international workshop (), a training webinar, and presentations at international events.

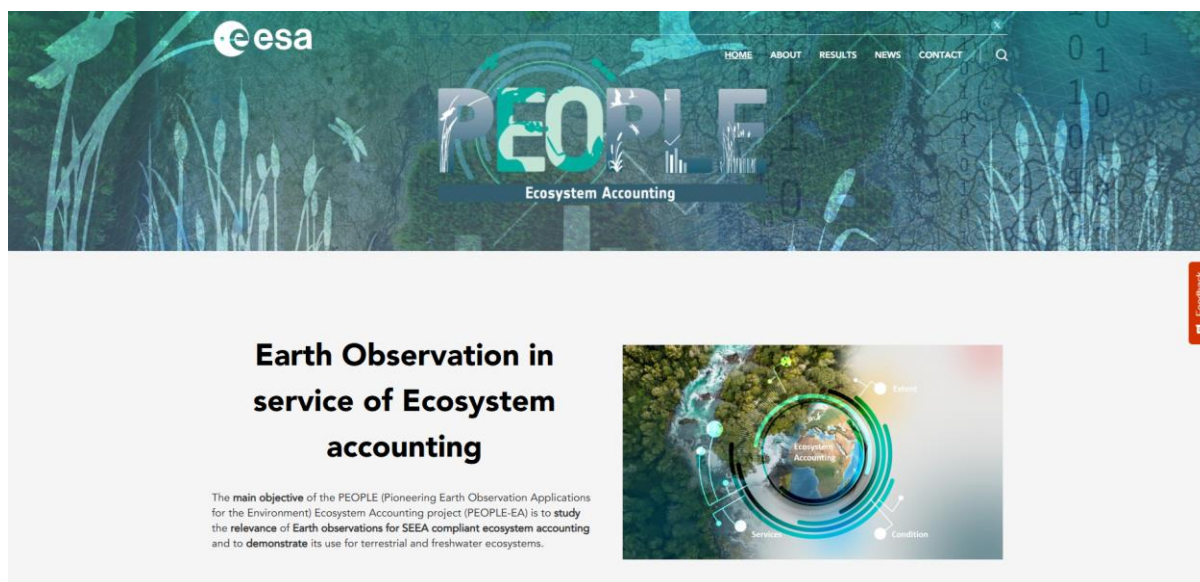


Figure 3. PEOPLE-EA website (<https://esa-people-ea.org/en>)



The workshop was conducted hybrid and was attended by in total 42 persons of which 21 in person.

The workshop was centralized around (i) showcase and discuss intermediate results of the PEOPLE-EA results, (ii) share experiences and knowledge using EO for ecosystem accounts in the EO, (iii) review and discuss a future outlook to scale up.

Figure 4. PEOPLE-EA International Workshop in Athens (22&23 May 2024)

The presentations are available on the website and can be found at <https://esa-people-ea.org/en/international-workshop-earth-observation-seea-compliant-natural-capital-accounting>.

6.1 Presentations

The consortium provided presentations in six conferences, including the PEOPLE-EA International Workshop as outlined above. Furthermore, the partners have submitted abstracts to show the results in three more conferences in 2025 (New Techniques and Technologies for Statistics, Biospace25 conference, Living Planet Symposium 2025).

**Norwegian remote sensing seminar
19 January 2023**

A presentation was given on the objectives and plan of the project, hence explaining the opportunities and hurdles to use EO in ecosystem accounting.



A presentation was given on Biodiversity variables for Ecosystem accounting.



A presentation was given to demonstrate role of EO in ecosystem accounting, through participation into a panel.



A presentation was given on the opportunity to use the SEEA EA with Earth Observation to support GBF indicators.



A tutorial session was given on the Aries4People explorer, as well as two presentations (one on extent mapping and one on forest condition).

6.2 Scientific Publications

The consortium did:

- Published one scientific paper, in the Ecosystem Services journal.
- Published one white paper, to the London Group on Environmental Accounting.
- Preparing three more publications for submission:
 - Habitat mapping
 - Wood provision
 - Recreation services
- Contributed to one paper of USGS team on Interoperability.

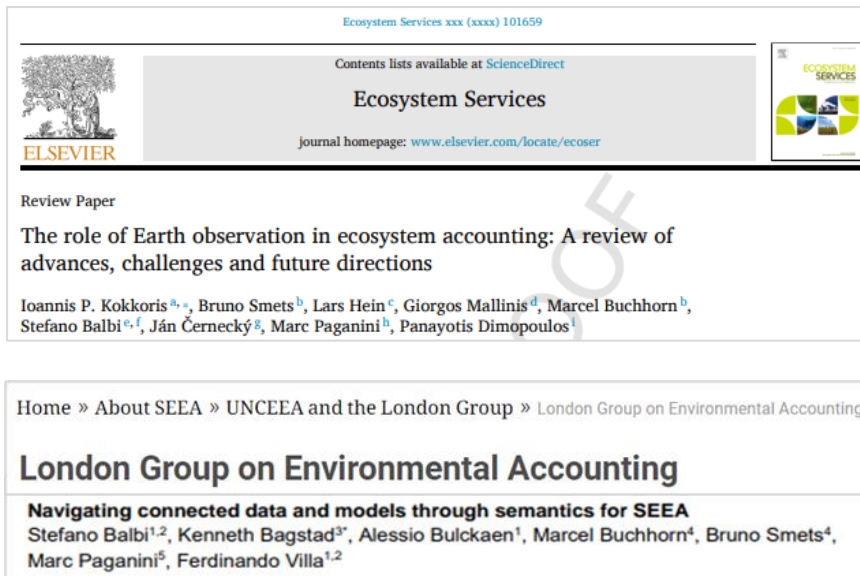


Figure 5. Graphical summary of the PEOPLE-EA published publications.

6.3 User guidelines and Training

The Aries for PEOPLE-EA Explorer was initially made available for the Early Adopters and made open for public use after the end of the project, including a full online user manual.

The training was recorded and made available to the public, as shown in Figure 6, using video chapters to ease the use to jump to specific sessions in the webinar.

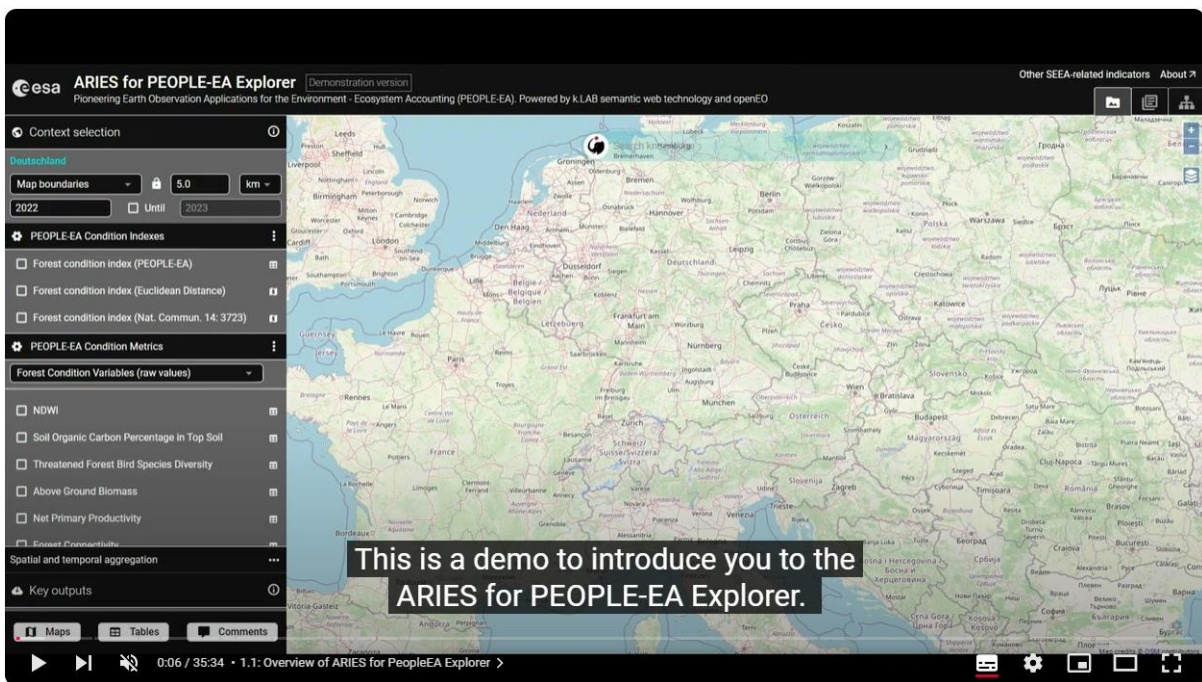


Figure 6. PEOPLE-EA webinar (<https://www.youtube.com/watch?v=fvChjW05IN8>)

7. Acronyms and Abbreviations

ACCORD	Account Ready Datastack
AD	Applicable Document
ARIES	Artificial Intelligence for Environment & Sustainability
ATBD	Algorithm Theoretical Basis Document
BC3	Basque Centre for Climate Change
CAP	Common Agricultural Policy
CCI	Climate Change Initiative
CDB	Convention on Biological Diversity
CEOS	Committee on Earth Observation Satellites
CLC	Corine Land Cover
CLCACC	Corine Land Cover Accounting layers
CLMS	Copernicus Land Monitoring Service
DG	Director General
EA	Ecosystem Accounting
EAD	Early Adopter
EEA	European Environmental Agency
EU	European Union
EUNIS	European Nature Information System, a habitat classification scheme
EUROPABON	European Biodiversity Observation Network project
EO	Earth Observation
EO4EA	Earth Observation for Ecosystem Accounting
EOEP	Earth Observation Envelope Programme
EOEP-5	5 th Earth Observation Envelope Programme (2017-2021)
ESA	European Space Agency
EU	European Union
FAIR	Findable, Accessible, Interoperable and Reusable
FAO	Food and Agriculture Organization of the United Nations
FP7	7 th Framework Programme
GEO	Group on Earth Observations
GEOBON	GEO Biodiversity Observation Network
GET	IUCN Global Ecosystem Typology
GIS	Geographic Information System
H2020	Horizon 2020
HR	High Resolution
HRL	Pan-European High-Resolution Layers
INCA	EU Integrated system of Natural Capital project
IPCC	International Panel on Climate Change
ITT	Invitation To Tender
IUCN	International Union for Conservation of Nature
JRC	Joint Research Center
LC	Land Cover
LCCS	LC Classification System
LDN	Land Degradation Neutrality
LIDAR	Light Detection And Ranging of Laser Imaging Detection And Ranging
LPIS	Land Parcel Identification System
LU	Land Use
LULUCF	Land Use, Land-Use Change and Forestry
MAIA	Mapping and Assessment for Integrated Ecosystem Accounting
MAES	Mapping and Assessment of Ecosystems and their Services
MMU	Minimum Mapping Unit

MoM	Minutes of Meeting
NOR	Network Of Resources
NSO	National Statistics Office
NUTS	Nomenclature of territorial units for statistics
OECD	Organization for Economic Co-operation and Development
OPENEO	Open Earth Observation interface/project
PEOPLE	Pioneer Earth Observation apPLications for the Environment
PM	Project Manager
PMP	Project Management Plan
PTM	Policy Traceability Matrix
PVP	Product Validation Plan
PVR	Product Validation Report
RB	Requirement Baseline
RD	Reference Document
SAR	Synthetic-Aperture Radar
SDGs	Sustainable Development Goals
SEEA	System of Environmental Economic Accounting
SEEA-EA	SEEA Ecosystem Accounting
SMEs	Small and medium-sized enterprises
SoW	Statement of Work
SPAM	Spatial Production Allocation Model
SSPE	Science for Society Programme Element
TDS	Test Data Set
TS	Technical Specification
UN	United Nations
UNCCD	UNCCD United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNSC	United Nations Statistical Commission
URD	User Requirement Document
URN	Uniform Resource Name
WBS	Work Breakdown Structure
WGCV	Working Group on Calibration and validation