

# ENVRI-FAIR: Environmental Research Infrastructures building Fair Services Accessible for Society, Innovation and Research



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**Easy and rapid access to reliable, high quality data is fundamental not only for environmental research and the development of associated prediction and assessment services, but also for assessing past and defining future policies and environment-friendly innovation.**

The demand for Earth system observation data is rapidly increasing, but the tools to manage, document, deliver, find, access, and use such data are still underdeveloped owing to the combination of data complexity and data volumes.

Environmental Research Infrastructures, as defined by European Strategy Forum on Research Infrastructures (ESFRI), cover the main four subdomains of the Earth system (Atmosphere, Marine, Solid Earth, and Biodiversity/

Terrestrial Ecosystems), which together form the cluster of European Environmental and Earth System Research Infrastructures (ENVRI). Environmental Research Infrastructures are crucial pillars for scientists in their quest for understanding and interpreting

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the complex Earth System. They are the larger European producers and providers of environmental research data collected from in-situ and satellite-based observing systems, and generate

relevant information for Europe and globally. The ENVRI-FAIR project aims to connect the cluster of Environmental Research Infrastructures (ENVRI) to the European Open Science Cloud (EOSC), while ensuring compliance with the FAIR (Findable, Accessible, Interoperable, and Reusable) principles formulated by the FORCE11 group ([www.force11.org](http://www.force11.org)). The FAIR principles lay out a framework for free and open access to data, curation and stewardship of research data, including data-related algorithms, tools, workflows, protocols, services and other kinds of digital research assets. Implementation of the FAIR principles throughout the ENVRI cluster requires a harmonized approach towards common policies, open standards, interoperability solutions, operational services, and stewardship of data.



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This goal will be achieved by implementing well-defined community policies and standards for all stages of the data life-cycle, and each participating RI providing FAIR compliant data services that are sustainable, transparent and auditable. Prototypes will be implemented for testing the pre-production services for each Research Infrastructure, with the service catalogue for each having been defined independently depending

on their individual maturity. The complete set of thematic data services and tools provided by the ENVRI cluster will ultimately be exposed in the EOSC catalogue of services. The Research Infrastructures participating in ENVRI-FAIR represent the core component of the Environmental Domain Research Infrastructure landscape. Due to the call requirements, the main contributors to ENVRI-FAIR are the 11 Research Infrastructures of the ENVRI cluster identified as ESFRI Projects or Landmarks.

Although ENVRI-FAIR only directly involves ESFRI Roadmap infrastructures and landmarks, and not all RIs included in ENVRIplus are beneficiaries in ENVRI-FAIR, the project aims to provide the backbone for interoperability with the EOSC for the entire

environmental domain. Interaction with all environmental RIs is therefore crucial and ENVRI-FAIR will present various opportunities for stakeholder involvement from existing and upcoming RIs, as well as technology and service providers and users of RI services.

The overall structure of the ENVRI-FAIR project is illustrated in Figure 1. The core elements of the project focus on the common strategies, policies, and technological standards, with the thematic parts addressing their implementation at the individual RI level. These activities are underpinned by communication, management, training and common implementation support activities.

ENVRI-FAIR is planned to start early in 2019, and will continue for 4 years.

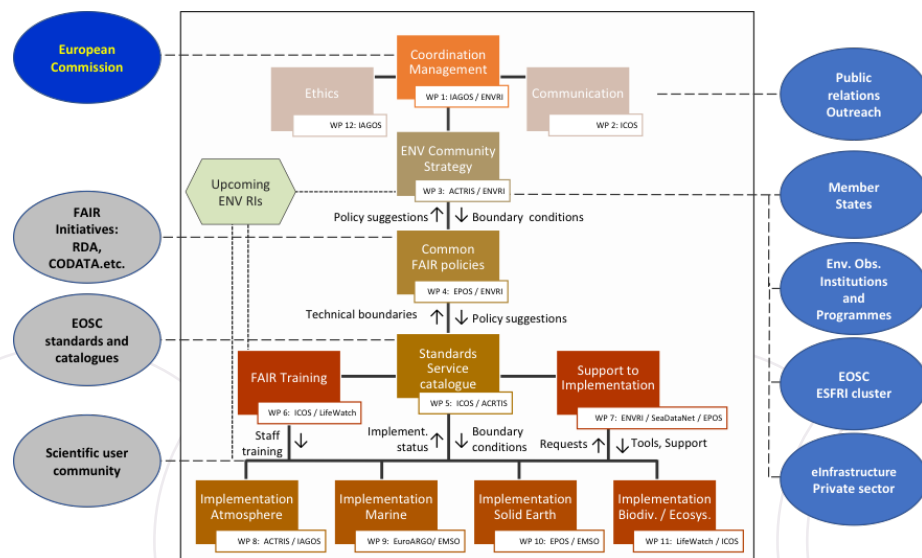


Figure 1. ENVRI-FAIR project plan. Squares are Work Packages (with leading organisations/RIs indicated), ovals are external stakeholders and the hexagons represents connections to the RIs not on the ESFRI Roadmap.