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## Building the Foundations for Open Applied Earth System Science in ENVRI-FAIR

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The EU project ENVRI-FAIR builds on the Environmental Research Infrastructure (ENVRI) community that includes principal European producers and providers of environmental research data and research services. The ENVRI community integrates the four subdomains of the Earth system - Atmosphere, Ocean, Solid Earth, and Biodiversity/Terrestrial Ecosystems. The environmental research infrastructures (RI) contributing to ENVRI-FAIR have developed comprehensive expertise in their fields of research, but their integration across the boundaries of applied subdomain science is still not fully developed. However, this integration is critical for improving our current understanding of the major challenges to our planet such as climate change and its impacts on the whole Earth system, our ability to respond and predict natural hazards, and our understanding and preventing of ecosystem loss.

ENVRI-FAIR targets the development and implementation of the technical framework and policy solutions to make subdomain boundaries irrelevant for environmental scientists, and prepare Earth system science for the new paradigm of Open Science. Harmonization and standardization activities across disciplines together with the implementation of joint data management and access structures at RI level facilitate the strategic coordination of observation systems required for truly interdisciplinary science. ENVRI-FAIR will finally create an open access hub for environmental data and services provided by the contributing environmental RIs, utilizing the European Open Science Cloud (EOSC) as Europe's answer to the transition to Open Science.