

The ENVRI and ENVRIplus Projects

Frontier environmental research increasingly depends on a wide range of data and advanced capabilities to process and analyse them. The original ENVRI project, "Common Operations of Environmental Research infrastructures" (2011 - 2014) was a collaboration in the [ESFRI](#) Environment Cluster, with support from ICT experts, to develop common e-science components and services for their facilities. The results are intended to speed up the construction of these Environmental Sciences research infrastructures and to allow scientists to use the data and software from each facility to enable multi-disciplinary science. The work is continuing (2015 - 2019) as part of the [ENVRIplus project "Environmental Research Infrastructures Providing Shared Solutions for Science and Society"](#).

The focus is on developing common capabilities including software and services for environmental and e-infrastructure communities. While the Environmental Sciences research infrastructures are very diverse, they face common challenges including data capture from distributed sensors, metadata standardisation, management of high volume data, workflow execution and data visualisation. Common standards, deployable services and tools will be adopted by each infrastructure as it progresses into its construction phase.

The ENVRI and ENVRIplus projects deliver a common reference model, the "ENVRI Reference Model" or "ENVRI RM" created by capturing the functional and other capabilities of each ESFRI-ENV infrastructure. This model and the development driven by the testbed deployments result in ready-to-use systems that can be integrated into the environmental research infrastructures.

The projects put emphasis on synergy between advanced developments, not only among the infrastructure facilities, but also with ICT providers and related e-science initiatives. These links will facilitate system deployment and the training of future researchers, and ensure that the inter-disciplinary capabilities established here remain sustainable beyond the lifetime of the project.