

acronym	type	title	short description	funding	period	web
<b>Biophysical parameters</b>						
ICOS	distributed sites and mobile instruments, variable-centered	Integrated Carbon Observatory	The ICOS RI enables effective access to a single and coherent data set to facilitate research into multi-scale analysis of GHG emissions, sinks and the processes that determine them. The backbones of the ICOS RI are the ICOS National Networks consisting of atmospheric, ecosystem and marine stations. The ICOS atmospheric and ecosystem networks are planned to include more than 50 fully equipped Class-1 atmospheric and more than 50 Class-1 ecosystem stations located across Europe, supplemented by Class-2 stations with the same analytical precision but less physical parameters measured.	ERIC	since 2005	<a href="https://www.icos-ri.eu/">https://www.icos-ri.eu/</a>
IAGOS	mobile instruments	In-service Aircraft for a Global Observing System	The In-service Aircraft for a Global Observing System (IAGOS) is a distributed research infrastructure that operates a global-scale monitoring system for atmospheric trace gases, aerosols and clouds by using the existing provisions of the global air transport system. It complements the global observing system in addition to ground-based networks, dedicated research campaigns and observations from satellites, balloons, and ships	ESFRI	since 2014	<a href="http://iagos.sedoo.fr/">http://iagos.sedoo.fr/</a>
ACTRIS	distributed sites and mobile instruments, variable centered	Aerosols, Clouds and Trace gases Research Infrastructure Network	ACTRIS is a pan-European distributed infrastructure dedicated to high-quality observation of aerosols, clouds, trace gases and exploration of their interactions. It integrates ground-based stations equipped with advanced atmospheric probing instrumentation for aerosols, clouds, and short-lived gas-phase species. It will deliver precision data, services and procedures regarding the 4D variability of clouds, short-lived atmospheric species and the physical, optical and chemical properties of aerosols to improve the current capacity to analyse, understand and predict past, current and future evolution of the atmospheric environment and the long-range transport of pollutants	FP7 and then ESFRI Project	since 2016	<a href="http://www.actris.eu/">http://www.actris.eu/</a>
EPOS	Distributed sites and mobile instruments,	European Plate Observing System	The European Plate Observing System (EPOS) aims at creating a pan-European infrastructure to monitor and unravel the dynamic and complex solid Earth System, by integrating the diverse and advanced research facilities and resources for solid Earth science and relying on new e-science opportunities. EPOS will enable innovative multidisciplinary research for a better understanding of the Earth's physical and chemical processes that control earthquakes, volcanic eruptions, ground instability and tsunamis as well as the processes driving tectonics and Earth's surface dynamics. It assembles a large panel of permanent seismological, volcanological, landslide, erosion observatories.	ESFRI project	on roadmap since 2008	<a href="https://www.epos-ip.org/">https://www.epos-ip.org/</a>
<b>Ecosystem Compartements or properties</b>						
UNECE ICP integrated monitoring	distributed sites, monitoring approach	International Cooperative Programme on Integrated Monitoring of Air Pollution Effects on Ecosystems	ICP_IM monitors the biological, chemical and physical state of pristine ecosystem sites over long time in order to provide an explanation of changes in terms of causative environmental factors, including natural changes, air pollution and climate change, with the aim to provide a scientific basis for emission control, develops and validate models for the simulation of ecosystem responses and use them (a) to estimate responses to actual or predicted changes in pollution stress, and (b) in concert with survey data to make regional assessments. Most of the sites are forested catchments, where data of both terrestrial and surface water ecosystem compartments is collected.	UNECE Convention on Long-range Transboundary Air Pollution (CLRTAP)	since 1991	<a href="http://www.unece.org/env/lrtap/workinggroups/wge/im.html">http://www.unece.org/env/lrtap/workinggroups/wge/im.html</a>
UNECE ICP Forest	distributed sites, monitoring approach	International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests	ICP Forests monitors forest condition in Europe at two monitoring intensity levels: The Level I monitoring is based on around 6000 observation plots on a systematic transnational grid of 16 x 16 km throughout Europe to gain insight into the geographic and temporal variations in forest condition while the Level II intensive monitoring comprises around 500 plots in selected forest ecosystems with the aim to clarify cause-effect relationships. At present 42 countries participate in ICP Forests. GLORIA's purpose is to establish and maintain a world-wide long-term observation network in alpine environments. Vegetation and temperature data collected at the GLORIA sites will be used for discerning trends in species diversity and temperature. The data will be used to assess and predict losses in biodiversity and other threats to these fragile alpine ecosystems which are under accelerating climate change pressures. The GLORIA network now consists of long-term observation of about 120 sites in 77 mountain regions distributed over five continents	UNECE Convention on Long-range Transboundary Air Pollution (CLRTAP)	since 1985	<a href="http://icp-forests.net/">http://icp-forests.net/</a>
GLORIA	Ecosystem/geosystem Site-centered, biodiversity	Global Observation Research Initiative in Alpine Environments		network	since 2001	<a href="http://www.gloria.ac.at/about_contact.html">http://www.gloria.ac.at/about_contact.html</a>
<b>Systemic approach on targeted ecosystems</b>						
SIOS	Ecosystem/geosystem Site-centered, system approach, multiple variables	Svalbard Integrated Arctic Earth Observing System.	The Svalbard Integrated Arctic Earth Observing System (SIOS) SIOS is a distributed world-class research infrastructure that will establish a regional observational system in and around Svalbard to address Earth System Science (ESS) questions related to Global Change. SIOS will establish an upgraded and integral Earth Observing System based on already existing infrastructure, in order to better understand the ongoing and future climate changes. This means that the system, not only will study the single processes, but additionally look at the interaction of all levels between the five spheres biosphere, geosphere, atmosphere, cryosphere and hydrosphere. SIOS is offering a single-point access to infrastructure, tools and services as well as providing a continuous development of methods, ground-based observations and a substantial capability for utilising remote sensing resources.	ESFRI roadmap	since 2008	<a href="http://www.sios-svalbard.org">http://www.sios-svalbard.org</a>
GLEON	Ecosystem/geosystem-centered, system approach, multiple variables	Global Lake Ecosystem Observation Network	Persistent network of lake ecology observatories in order to improve understanding and management of lake ecosystems. GLEON is thus a problem-oriented network. It has been founded with the overall aim to facilitate interaction and build collaborations among an international, multidisciplinary community of researchers, focused on understanding, predicting, and communicating the impact of natural and anthropogenic influences on lake ecosystems by developing, deploying, and using networks of emerging observational system technologies and associated cyber infrastructure.	distributed sources	?	<a href="http://gleon.org">http://gleon.org</a>

DANUBIUS	Ecosystem/geosystem type-centered, system approach, multiple variable	International Centre for Advanced Studies on River-Sea Systems	The International Centre for Advanced Studies on River-Sea Systems (DANUBIUS-RI) is a distributed research infrastructure building on existing expertise to support interdisciplinary research on large river-sea (RS) systems. It spans the environmental, social and economic sciences and brings together research on different environmental sectors. It provides access to a range of RS systems, facilities and expertise, a "one-stop shop" for knowledge exchange, access to harmonised data and a platform for interdisciplinary research, education and training.	ESFRI project	since 2016	<a href="http://www.danubius-ri.eu/">http://www.danubius-ri.eu/</a>
<b>Systemic approach on multiple eco or socio-systems</b>						
ECOPOTENTIAL	Ecosystem/geosystem Site-centered, system approach, multiple variables	improving future ecosystem benefits through earth observations	The <b>ECOPOTENTIAL</b> project will address cross-scale ecological interactions and landscape-ecosystem dynamics at regional to continental scales, using geostatistical methods and the emerging novel approaches in Macrosystems Ecology, which is addressing long-term and large-scale ecological challenges. IT focuses its activities on a targeted set of internationally recognised Protected Areas, blending Earth Observations from remote sensing and field measurements, data analysis and modelling of current and future ecosystem conditions and services. ECOPOTENTIAL considers cross-scale geosphere-biosphere interactions at regional to continental scales	H2020	2015-2019	<a href="http://www.ecopotential-project.eu/">http://www.ecopotential-project.eu/</a>
LTER	Site centered, system approach (eco)	long-term ecological research network	LTER Europe is the European counterpart of a global network (ILTER). It is a network of sites and of plateforms that capitalizes on research infrastructures on ecosystems such as the in-situ network of sites and information technology. Through research and long-term observation of representative sites around the globe, LTER enhances our understanding of the structure and functions of ecosystems, which provide essential services to people. LTER contributes to the knowledge base informing policy and to the development of management options in response to the Grand Challenges under Global Change.	network	since 2003	<a href="http://www.lter-europe.net/lter-europe">http://www.lter-europe.net/lter-europe</a>
<b>Systemic experimental approach</b>						
ANAE	distributed experimental sites, multiple variable	Infrastructure for Analysis and Experimentation on Ecosystems	A research infrastructure for experimental manipulation of managed and unmanaged terrestrial and aquatic ecosystems. It aims at supporting scientists in their analysis, assessment and forecasting of the impact of climate and other global changes on the services that ecosystems provide to society. The experimental approach will be built around Manipulation, Measurements, Modelling, Mitigation and Management. At the core of AnaEE's approach are the distributed experimental facilities needed to expose ecosystems to future conditions to quantify the role of each of the drivers of change and to identify their interactions.	ESFRI roadmap	since 2010	<a href="http://www.anaee.com/">http://www.anaee.com/</a>
CLIMMANI	distributed sites, multiple variable	Climate Change Manipulation Experiments in Terrestrial Ecosystems	ClimMani built coherent interdisciplinary databases and coordinated research activities globally. This is necessary in order to formulate future research needs and to guide political and management activities to combat or minimize negative effects on natural ecosystems and promote sustainable development. ClimMani organized a series of high level workshops in the field. The current follow-up ClimMani COST action aims at improving the quality and appropriateness of experiments, data and modeling in climate change research and facilitate better use of experimental data for scenario building and process understanding. The COST action brings together researchers designing, conducting and modelling climate change experiments and researchers analyzing and synthesising results on the experimental impacts.	ESF network	2008-2013	<a href="http://climmani.org/">http://climmani.org/</a>
<b>Virtual Ris</b>						
LIFEWATCH	e-Research Infrastructure	e-infrastructure for Biodiversity and Ecosystem Research	The e-infrastructure for Biodiversity and Ecosystem Research (LifeWatch) is a distributed RI to advance biodiversity research and to address the big environmental challenges and support knowledge-based strategic solutions to environmental preservation. This mission is achieved by providing access to a multitude of data sets, services and tools enabling the construction and operation of Virtual Research Environments.	ESFRI project	entered 2006	<a href="http://www.lifewatch.eu/">http://www.lifewatch.eu/</a>
IS-ENES	Data and model e-infrastructure	Infrastructure for the European Network for Earth System Modelling	European Network for Earth System modelling. It provides information and services on the European Earth System Models and some associated tools, on data produced by internationally coordinated climate model experiments and on the use of high-performance computing facilities to run complex climate simulations. It is intended to be a portal for the climate modelling community, but also for all the communities interested in using climate models results. In particular the ENES portal provides access to a specific interface dedicated to the communities working on impacts of climate change	FP7 project	2009-2013	<a href="https://is.enes.org/">https://is.enes.org/</a>
ELIXIR	e-Research Infrastructure	A distributed infrastructure for life-science information	ELIXIR unites Europe's leading life science organisations in managing and safeguarding the increasing volume of data being generated by publicly funded research. It coordinates, integrates and sustains bioinformatics resources across its member states and enables users in academia and industry to access vital data, tools, standards, compute and training services for their research.	H2020	2014-2018	<a href="https://www.elixir-europe.org">https://www.elixir-europe.org</a>
ENVRIplus	Earth and environmental science Network building		The objective of ENVRIplus is to provide common solutions to shared challenges for European Environmental and Earth System Research Infrastructures in their efforts to deliver new services for science and society. To reach this overall goal, ENVRIplus brings together Environmental and Earth System Research Infrastructures, projects and networks together with technical specialist partners to build common synergic solutions for pressing issues in Research Infrastructure construction and implementation. ENVRIPLUS is driven by 3 overarching goals: 1) favouring cross-fertilization between Research Infrastructures, 2) implementing innovative concepts and devices across Infrastructures, and 3) facilitating research and innovation in the field of environment to an increasing number of users outside the Research Infrastructures.	H2020	2015-2019	<a href="http://www.envriplus.eu/">http://www.envriplus.eu/</a>