

ENVEUROPE

Environmental quality and pressures assessment across Europe: the LTER network as an integrated and shared system for ecosystem monitoring

LONG-TERM ECOSYSTEM RESEARCH

EnvEurope started and is being developed within the European Long-Term Ecosystem Research Network (LTER-Europe) which represents more than 400 sites across Europe. Long-term (multi-decadal) ecosystem research and monitoring requires shared scientific knowledge, common information management and harmonization of parameters and methods at a European scale. It will lead to a deeper understanding of ecosystem functioning, improved environmental management and support for the development of EU environmental policies and conservation planning through the integration of objectives, resources and disciplines.

The project contributes to the integration and coordination of long-term ecosystem research and monitoring initiatives in Europe, focusing on understanding the current status of ecosystems and how they are changing. It is characterized by a broad-scale and cross-domain (terrestrial, continental waters, wetlands and marine ecosystems) approach, combining the efforts of 11 countries and of over 65 sites belonging to the LTER-Europe network.

One of the starting points is the unifying concept of ecological integrity, whose focal components are ecosystem structures and processes and the ability of systems for self-organisation. Based on this theoretical framework, the parameters measured within the network will be assigned to ecological integrity indicators.

EnvEurope has also been conceived and structured to play a role in the conceptual and operative context of the Shared Environmental Information System (SEIS) promoted by the European Commission and in the development of some components of the Global Monitoring for Environment and Security (GMES), a joint initiative of the European Commission and European Space Agency.

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Countries and more than 40 organizations involved around Europe

PROJECT PARTICIPANTS



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Sites representing major environmental and socio-economic gradients of Europe



ENVIRONMENTAL QUALITY ASSESSMENT

EnvEurope will develop and provide an integrated environmental information management system, thus contributing to the technical components of SEIS. This activity implies semantically consistent metadata and data architectures, accessible not only to the scientific community, but also to policy-makers and stakeholders.

Harmonization of parameters and methods is a major challenge for a large European network of LTER sites. EnvEurope will select, on the basis of long-term data series and of recently collected field data, a set of key environmental quality indicators able to characterize ecosystems and sensitive to major natural and anthropogenic stressors. The identification of harmonized parameters and methods, recommended for the whole LTER community, should also become a scientific reference, useful in the ground-truth validation of remote sensing and for GMES products.

The EnvEurope activity will supply ecological data and information on the status and long-term trends of terrestrial, continental waters, wetlands and marine ecosystems at the European scale, based on field data gathered at different scales. It will thus contribute to bridging the gap between science and policy and to improve scientific support to the EU's environmental policy and conservation plans.

EnvEurope coordinator: ITALY, Italian National Research Council, Institute of Marine Sciences.
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Parameters monitored and exploited to select a set of key environmental quality indicators

INVOLVED COUNTRIES

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PROJECT SITES

- Marine site
- Terrestrial site
- Continental waters or wetlands site

