ABOUT ENVEUROPE

The ecological monitoring and long-term study of ecological systems need a shared scientifically-sound basis and a methodological harmonization at European scale, to improve the environmental management, and to support the development of environmental policies and planning through integrated approaches of objectives, resources and disciplines.

JOIN US!

EnvEurope proposes a design for environmental high quality monitoring and long-term research sites and the exemplary establishment of common parameter set for the site-based network of the European Long-Term Ecosystem Research in Europe (LTER Europe).

AIMS

The project builds on existing infrastructures and data series collected by LTER sites and collaborating long-term monitoring sites (e.g. ICP, Biosphere Reserves, etc.).

It focuses on three types of ecosystems **(terrestrial, freshwater and marine)**, and aims at defining research and monitoring activities relevant to different levels/scales of investigation. It considers specific monitoring intensities and methods adjusted to the respective assessment intensity, trans-domain processes, environmantal and socio-ecological gradients of Europe and associated drivers and pressures (DPSIR), and implements a multi-level and multi-functional approach.

The project has been planned in the conceptual and operative context of SEIS and will contribute to the development of the GMES initiative.

The EnvEurope project aims to:

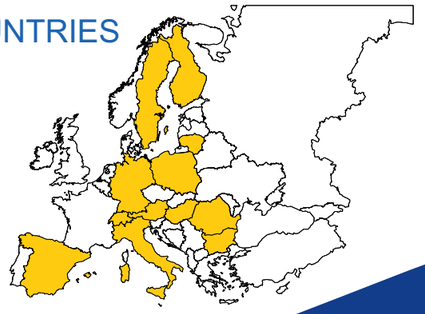
Select and provide data, information and ecological indicators on long-term trends of terrestrial, freshwater and marine ecosystem quality at the European scale, with reference to habitat types (including Natura 2000) and environmental gradients. The core of this activity is the European Long Term Ecosystem Research network (LTER-Europe).

Select and collect data able to provide information on environmental quality and drivers with respect to indicators and methodologies shared and applied in the main European networks (LTER Europe, EIONET, EU Forest Focus and ICPs of UNECE/CLRTAP/WGE, Natura2000, etc.). This implies semantically consistent data architectures enabling seamless drill down from metadata to data, accessible not only to the scientific community, but also to policy-makers and stakeholders. Experiences from this activity are to support the development of SEIS initiative.

Develop and setting-up in the field an integrated and permanent site-system to detect and evaluate changes in biodiversity across Europe, through harmonizing standard parameter set, methods, and long-term data. The activity will contribute to GMES initiative.

Select, on the basis of data, feasibility test in the field, and knowledge exchange between science and policy, a set of key environmental quality indicators sensitive to defined major pressures and drivers. Within this context the stakeholder perspectives will be integrated as a fundamental tool to determine both indicator quality and acceptance.

ENVEUROPE COUNTRIES



ORGANIZATION OF WORK

The project is implemented by the means of the following actions:

Action 1 - Data collection and management.

The action comprises the collection of available metadata and data, with respect to environmental state and pressure parameters, for selected indicators and the methodologies applied in the relevant European Networks (LTER-Europe, EIONET, EU Forest Focus & ICPs of UNECE/CLRTAP/WGE, Natura2000, etc.) and establishing data management practices (SEIS).

Action 2 - Parameter and method elaboration.

This action consists in the elaboration of a core set of ecological parameters to be sampled. It aims at producing manuals: 1) de-novo, as concerns new parameters and 2) a revised version of pre-existing manuals, including improved harmonization and adaptation to the new scales of investigation.

Action 3 - Cause-effect analysis and scientific evaluation.

On the basis of historical and newly gained ecological monitoring data the biodiversity status, trends and cause-effect relationships will be evaluated at different spatial and temporal scales. The evaluation considers regional variability and differences between freshwater, marine and terrestrial habitats. The results will be communicated to the policy makers, the general public, and the scientific community.

Action 4 - Network Design.

The outputs include a new, optimized network for biodiversity research, reflecting environmental and economic stratification of Europe and key ecosystem types, and linked to other site-based environmental networks (as CLRTAP ICPs, in-situ component of GMES, etc.).

Action 5 - Testing in the field.

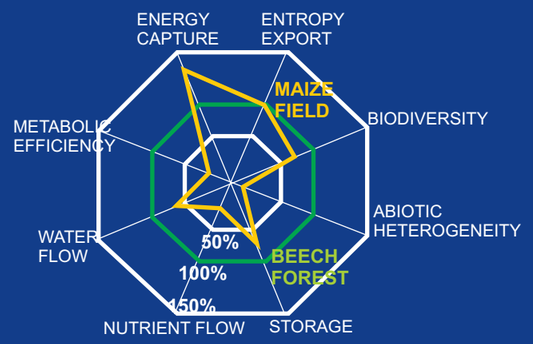
The experimental phase of the project is to serve as feasibility study for proposed a multi-level and multi-functional monitoring approach, and its up- and down-scaling abilities. The action has a view to contribute to a better assessment of European environmental quality, contributing to data collection for GMES (e.g. providing ground-truth data for remote sensing of ecosystem structure, productivity and status).

Action 6 - Strategy and dissemination.

CONCEPTUAL FRAMEWORK

The basis of the project is the concept of ecosystem integrity and self-organization.
It links together structural approaches as the“processors” of the system and the ecological functions - the processes.

Thus the concept enables not only unique characterization of each system, but also description of disturbances and linking different domains: terrestrial, freshwater and marine.
Descriptors of structure and processes determine parameter set to be collected and indicator set to be calculated.



ENV europe

Environmental quality and pressures assessment across Europe

LTER europe

Life

ENVeurope 2010-2014
Life Enviroment Project LIFE08 ENV/IT/000339

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

www.enveurope.eu

NFOŚiGW

European Long-Term Ecosystem Research Network

LTER Europe
European Long-Term Ecosystem Research Network

ABOUT LTER-EUROPE

The Long-Term Ecosystem research network has been initiated in the United States, by the National Science Foundation (NSF) in 1980. The goal was to support research on long-term ecological phenomena in US. The 26 US-LTER sites represented diverse ecosystems and research emphases (http://www.lternet.edu/). Supported by the US-LTER and through the initiating efforts of NSF in the 1990s, 28 countries worldwide were formally accepted as members of the global LTER network (International Long-Term Ecosystem Research, ILTER).

Functionally ILTER operated through continental or sub-continental regional groups, including two European networks of Western and Eastern-Central Europe.

In Europe major changes were initiated in 2001, when the European Environment Agency (EEA) advocated that Europe needed a powerful and unified continental research and monitoring network to cope with the complex challenge of better management of European ecosystems.

To support the initiation of such an European LTER network, the EEA acted as a key stakeholder for the process of the proposal preparation for EU's 6th Framework Programme (FP6). It considered LTER in combination with biodiversity as a potential Network of Excellence. Finally in 2004 the Network of Excellence "ALTER-Net" has been funded by the European Union with one of the aims to support LTER network in Europe.

Supported by the request of the European Commission for institutional integration, ALTER-Net expanded its efforts beyond the ALTER-Net institutional consortium, succeeding in including most European countries into the LTER-Europe process. As a milestone, the former western and eastern LTER networks were merged in the course of the formal foundation of "LTER-Europe" in June 2007 in Balatonfüred, Hungary.

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AIMS & ACTIVITIES

The mission of LTER-Europe is to support the production & delivery of sound scientific information & predictive understanding of ecological & socio-economic processes to the scientific community, policy makers, & society in general. This knowledge is highly needed to inform solutions to environmental problems on the local, national, European & global scale.

WHY IS LTER-EUROPE UNIQUE?

LTER-Europe serves multiple purposes and support a wide range of issues related to environmental research. Thus, it acts as:

- A knowledge factory
- A network of LTER sites
- A network of LTSER platforms
- A network of national networks
- A network of institutions
- A network of scientists (a community)
- A network of disciplines
- A network of data and metadata
- Part of a network of European networks
- A network of site based research and research projects
- A process structuring and integrating all the above

FOUR CORE CHARACTERISTICS

There are four core characteristics differentiating LTER-Europe from other networks and forming the second component of it´s uniqueness:

IN SITU: LTER-Europe generates field data at different scales (up to the regional scale) and across ecosystem compartments.

LONG-TERM: LTER-Europe dedicates itself to the provisioning, documentation and continous use of long-term information and consistent data on ecosystems with a the time horizon of decades to centuries.

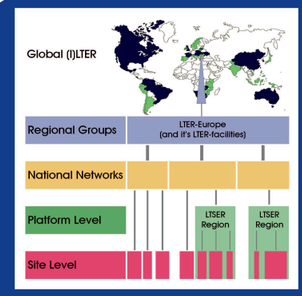
SYSTEM: LTER-Europe contributes to better understanding the complexity of natural ecosystems and coupled socio-ecological systems.

PROCESS: LTER-Europe´s research aims at the identification, quantification and interaction of processes of ecosystems driven by internal and external drivers.

pictures: K.Krauze, M.Łapińska, P.Krupa, A.Toch

ORGANISATION

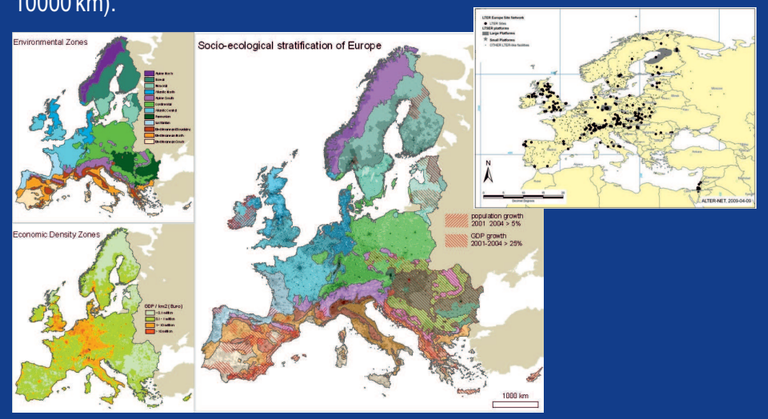
LTER-Europe is a hierarchical network of: 24 national LTER networks, composed of both sites of long-term ecosystem research and monitoring and platforms (regions) of socio-ecological research (LTSER).



Sites and platforms represent major environmental and socio-economic gradients of Europe.

LTER SITES - are facilities of limited size (about 1-10 km^2), comprising mainly one habitat type and form of land use. Activities focus on small scale ecosystem processes and structures.

LTSER PLATFORMS - are modular facilities consisting of sub-sites. They facilitate: research, the networking of client groups, data management and communication. The elements of platforms represent the main habitats, land use forms and practices, and economic sectors relevant for the broader socio-ecological region (100up to 10000 km).



On the operational level LTER Europe aims at:

- strengthening the knowledge flow between science and policy to increase credibility and relevance of both,
- supporting the implementation of scientific results,
- development of synergistic monitoring and research on the European level and in individual countries
- elaboration, testing and harmonization of indicators and monitoring schemes
- multiple use of research infrastructures, data and expertise
- facilitation of co-operation between different groups of interest.

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