

JOINT PROJECTS

Water, soil, biodiversity, land management... The latest research developments on page 2



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An opportunity to foster collaboration. Interviews to our scientists on page 3



PEER 2011



Science, Environment, Society

THE CHAIR'S CORNER

Dear reader,

This first annual report of the **Partnership for European Environmental Research** summarizes the main activities in 2011 and gives background information on the network. The tenth anniversary of PEER marked a further step towards a joint research strategy. PEER continued its active role in EU policy support by publishing three position papers and statements. 2011 was characterized by a number of structural changes within the PEER Institutes, as well as by the strong commitment to scientific collaboration through workshops, staff exchanges, web platforms and common laboratories. Partnerships were developed with the private sector and other institutional networks, and investments were made in communication. Among other important achievements, are the publication of the first PEER report on ecosystem services; the organisation of three successful conferences; and the inclusion of a session in the main European scientific event 2012: The EuroScience Open Forum.

 Lea Kauppi, PEER Chair

'A spatial assessment of ecosystem services in Europe' First phase report published

PEER Research on EcoSystem Services (PRESS) initiative addresses the existing knowledge gaps in land-use information to perform a spatially-explicit, biophysical, monetary and policy assessment of ecosystem services in Europe. Also, it aims to reflect the social and economic values of ecosystem services.

The PEER Report 3: 'A spatial assessment of ecosystem services in Europe: Methods, case studies and policy analysis - phase I', published in September 2011, demonstrates methodologies to map at different spatial scales the role of ecosystems as providers of recreation to citizens and the function of river networks in providing clean water. The report investigates how ecosystem services can be mainstreamed into agriculture, fisheries or forestry

policies. It includes an analysis of policy options and shows that the perception of what services are provided by ecosystems varies according to the respondents, the region and the scales of decision-making. A second report specifically conceived for policy makers is expected to be published in the second half of 2012.

The PRESS report phase I is available for download at www.peer.eu



PEOPLE ARE OUR MOST VALUABLE RESOURCE



The project coordinators K. Jax (UFZ), G. Bidoglio (JRC-IES), L. Braat (Alterra) met during the preparation of the TEEB D0 report (*The Economics of Ecosystems and Biodiversity: Ecological and Economic Foundations*) in Jan. 2009, where they agreed on the need for coordinate efforts in assessing ecosystem services to provide science-based support to policy making.



▶▶ The common strategy to benefit EU policies

PROJECTS

The Partnership for European Environmental Research is contributing to several FP7 projects on multidisciplinary areas.

In 2011, the research activities run in the framework of the European Biodiversity Observation Network (EBONE), coordinated by Alterra, brought harmonisation between the systems used for monitoring biodiversity. This led to a system able to integrate data from different countries in an INSPIRE format.

At the same time, the JRC-IES applied a compaction model to the eSOTER database (regional pilot platform as EU contribution to a Global Soil Observing System), the European Soil Database and World Harmonized Soil Database and compared the related results. Scientists developed and tested solutions to make eSOTER data available to public in vector and raster formats.

Also, the **Geoland2** project on Operational Monitoring Services for our Changing Environment, run in collaboration with the Aristotle University of Thessaloniki, has developed a new dynamic and realistic soil erosion model, which estimates soil loss from sheet and interrill erosion caused by splash and runoff. It employs harmonized standard input data from European and global databases and takes into account contemporary changes of rainfall erosivity as well as vegetation retention.

The **iSOIL** project had focused on new technologies for assessing soil properties along depth accurately. It has generated a number of maps/datasets for the Nine (9) main project field sites - from Germany, Czech Republic, Austria, Bulgaria - that can be used by other scientists. In 2011, JRC-IES has been in charge of developing a data dissemination

platform in order to distribute the project results.



Soil erosion © E. Roggio, Irstea

The Water and Global Change project (**WATCH**) ended in 2011. According to its coordinator Dr Harding (CEH), WATCH has produced the most extensive assessment ever of past and future water resources for the entire world as well as a new global analysis of water scarcity. Findings from WATCH improved the understanding of climate change and land use impacts on the global hydrological cycle. The new data sets, maps, methods and models developed will be used to analyse, predict and manage water resources, floods and droughts worldwide.

NitroEurope studies the impact of man-driven alteration of the nitrogen cycle on Europe's greenhouse gas balance. It demonstrated that nitrogen emissions to the environment have both warming and cooling effects, respectively depending on nitrous oxide and ozone production, and the growth of forests and atmospheric particulate matter which both absorbs and scatters light. These effects largely balance, so we cannot count on any cooling effects of nitrogen on climate. To get all round benefit, Europe should improve its nitrogen use efficiency, maximizing the fertilizer benefits for food, while reducing the losses of all N pollution forms and decreasing the surplus of 70% animal proteins we eat.

Water bodies in Europe: Integrative Systems to assess Ecological status and Recovery (**WISER**) produced new methods for assessing lakes and coastal / transitional waters with phytoplankton, macrophytes, invertebrates and fishes, and intercalibration with existing methods. These results will support the implementation of European directives in the field of environmental protection, i.e. the Water Framework Directive, and provide guidance for water managers on the development of river basin management plans.

PLUREL (Peri-urban Land Use Relationships – Strategies and Sustainability Assessment Tools for Urban – Rural Linkages) final report, published in January 2011, addresses urban development. Peri-urban areas under particular pressure often result in many societal and environmental problems. The study quantifies the trends, risks and opportunities for peri-urban areas, sets out new concepts for urban-rural linkages, and provides recommendations for targeted policies for rural-urban regions across Europe.



Cows in the Alps © J. Gaffuri, JRC-IES

PROJECTS WEBSITES

- ▶ www.ebone.wur.nl
- ▶ www.esoter.net
- ▶ eusols.jrc.ec.europa.eu
- ▶ www.eu-watch.tv
- ▶ www.gmes-geoland.info
- ▶ www.isoil.ufz.de
- ▶ www.nitroeuropa.eu
- ▶ www.plurel.net
- ▶ www.wiser.eu



Interdisciplinary approach to ecological sustainability



Events

Conferences are the ideal place for scientists to meet, discuss ideas and develop joint projects. In autumn 2011, PEER organised three successful conferences which saw the participation of 360 people.

The 'Science for the Environment' conference, held in Aarhus on the 5th-6th October, addressed four main themes: European Directives, biodiversity, low impact - low carbon economy, tools for future decision making. The PEER-EurAqua conference 'Innovative

approaches for the management of environmental risks from plant protection products' took place in Montpellier, on the 26th-28th October, as a follow-up of the seminar on ecotoxicology held in Lyon in November 2010.



© R. Paaske, AU

'We had many fruitful workshops: We look forward to seeing you at the next one in 2013!'
the organizers say

Two of the invited speakers, D. Evans and B. Sutherland, discussing with participants to the Aarhus conference.

The 'Ecotech & Tools' event organised with the ECOTECH-SUDOE and ECOTOOL consortia on the 30th November - 2nd December addressed the latest developments in environmental and integrated assessment of anthropogenic complex systems.

2012 will see PEER participate in the EuroScience Open Forum (ESOF) with a session on green infrastructure co-organised with ALTER-Net, as well as attending the Berlin Conference on the Human Dimensions of Global Environmental Change.

DID YOU KNOW?

In 2011, the PEER member Institutes Cemagref and NERI changed their names respectively into National Research Institute of Science and Technology for Environment and Agriculture (Irstea) and DCE - Danish Centre for Environment and Energy, a part of Aarhus University.



© E. Risch, Irstea/Elsa

Ecotech & Tools

Participants said: 'Ecotech & Tools drew interesting directions for future collaborative research'

A lively scientific community Staff exchanges stimulate initiatives

Staff exchanges represent an essential strategic tool for developing joint research initiatives, as the latest ones on climate change and ecosystem services. Encouraging the researchers' mobility between the PEER centres provides a great impulse to bottom-up scientific cooperation initiatives, and is a key factor to achieve the goals of joint projects, knowledge exchange, dissemination of best practices and collabora-

tion at all levels. Also, the exchanges contribute to the scientists' personal development: All participants take the advantage of building a rich CV as well as new connections. The PEER Directors are strongly committed to stimulating mobility within partner Institutes. They create the facilities to support staff exchanges and the sharing of experiences and recommendations from colleagues who spent time at another centre.

Experiences

Ilse G.,
Alterra to Irstea
'While working on habitat monitoring at Irstea, I built international contacts useful for future projects'



Laurence C.,
CEH to JRC-IES
'I moved with my family and got support in administrative and practical issues. I could collaborate with staff having different skills and expertise'

Henk W.,
Alterra to JRC-IES



'I had a 3 months sabbatical at JRC-IES to work with soil experts of 27 EU Member States'

INTERESTED?

Staff members' mobility can represent a life-changing experience. If you want to know more, contact the Sherpa at your Institute!

JOB OPPORTUNITIES

External scientists are encouraged to apply to specific vacancies which are regularly made available on the PEER Institutes' websites:

- ▶ Permanent, medium and short-term contracts
- ▶ Secondment positions
- ▶ PhD, Post-Doc and Senior grants
- ▶ Internships



The **Partnership for European Environmental Research** is a network of seven of the largest public environmental research centres in Europe, founded in 2001 with the aim of pursuing a joint scientific strategy to achieve ecological sustainability. Its member Institutes carry out basic and applied research, covering from natural to social sciences. PEER integrates knowledge and expertise to support national and European policy makers, industry and society.



WANT TO KNOW MORE? CONTACT US!

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www.peer.eu



KEY PUBLICATIONS

- ▶ Statement on Low Carbon Economy 'Environmental research can ensure that the Low Carbon Economy becomes sustainable', Mar. 2011
- ▶ Response to the Green Paper 'From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation funding', May 2011
- ▶ PRESS report 'A spatial assessment of ecosystem services in Europe – Methods, case studies and policy analysis – phase I', Sept. 2011
- ▶ Position Paper 'Towards a renewed research agenda in ecotoxicology', Oct. 2011

PRESS REVIEW

Danish EU Presidency.
Multidisciplinary Environmental Research.
The PEER Challenge.
Government Gazette (Oct. 2011) p.40
ISSN: 2042-4167

