European Water Community News

A little slice of 'SPI'

Issue. No.2 - December 2011

This issue sees the projects well underway and results starting to be available and discussed between the researchers involved in the projects. The reports coming from the projects present the first issues arising from the research. For the coordination project, we see this mid-term phase as the time for reflection also. We start to organise the mid-term event that will be in may or June next year and will bring the projects together, along with external experts to discuss the issues and share experiences in research.

Before this event the IWRM-net projects will be at the 6th World Water Forum in Marseille. This provides a fantastic opportunity for the IWRM-net SCP projects to be presented as good examples of collaborative research with transnational consortium. Much of the work being undertaken is very much focused on investigation solutions for water management. It also provides a good opportunity for the International Office of Water (OIEau) to link the work of the IWRM-net partners to that of other research in particular through the WaterDiss and Water Research to Market projects.

OIEau will be part of the French Water Partnership Pavillion ain Marseille and will have a specific section relating to Research and with this we hope to provide you with a fantastic opportunity to see the range of research being undertaken across Europe. We also have the persmission of the French Ministry to take the projects from the Liteau programme regarding management of the coast in France, to provide a link between the research community focused on coastal and marine issues and that of the 'freshwater' community.

Often not connected but working on simliar issues regarding water managament on the coast.

We will also be providing a special edition of this newsletter to promote our research projects, so we hope to see you there!

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The SCP secretariat is managed by the International Office for Water and funded by the Ministry for Ecology, Sustainable Development, Transport and Housing in France.

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CIS SPI ad-hoc activity
Ecosystem Services Conference

The "science-policy interface"ad-hoc activity of the Water Framework Directive (WFD) common implementation strategy aims to build efficient partnerships between research organisations, policy makers and water managers for the purpose of WFD implementation. More specifically, the goals of this activity are to provide research end-users with scientific and technical tools as well as methods, and to translate operational issues into questions for research to alert financing organisations and research partners of those needs.

To help achieving these goals, CIS-SPI org anises yearly events where "science meets policy". The 2nd CIS-SPI event took place September 29-30, 2011 in Brussels; its title was "Implementation of the WFD: when ecosystem services come into play". Though not explicitly mentioned in the WFD, ecosystem services appear as a promising concept to help its implementation. Already used by some managers and decision makers as a powerful tool for building and implementing programs of measures, this subject has been one of the main challenges put forward at the first SPI event on September 30, 2010. Thus, this topic was chosen as the theme of the 2nd SPI seminar. This event aimed at exploring how the ecosystem services approach can help to highlight benefits (social, economic, environmental) of the WFD and boost political levers for the implementation of the WFD. Therefore, the seminar's objectives were; on the one hand to clarify the ecosystem services concept in light of the WFD implementation and on the other hand to help participants to investigate how ecosystem services can be used for integrated catchment management as well as for WFD implementation at the different stages (e.g. RBMPs and programs of measures).
Part of this process is to build a common language among scientists and with forefront stakeholders from EU, national and river basin levels and the event was attended by more than 110 people coming from 21 countries. 46% of the participants were policy-makers, 35% representatives of the scientific community, almost 10% water managers and 9% representatives of the private sector.

The participants worked both in plenary sessions and separated round tables held to address three subjects: quantity management, water quality and hydromorphology. Additionally, a role playing game took place to simulate a negotiation about applying ecosystem services in river basin management. These sessions helped delegates exchange experiences and identify ecosystem related knowledge, between them. They addressed also specific questions such as:

- How does maintaining ecosystem services help to reach WFD objectives and vice-versa?
- Has the use of ecosystem services allowed a better understanding of water management issues in connection with WFD implementation?
- What does valuing ecosystem services bring?

The seminar report is still under elaboration. It will be available early 2012. It will include an overview of research needs and gaps with the view of feeding in future FP projects and the DG ENV Blueprint. The outcomes will also help to learn practical lessons for implementing to ecosystem services approach.

ONEMA
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EXPERT VIEW

Green economy and ecological services valuation for water and aquatic ecosystems:
make sure your solution is posted

Author: Sarah Hernandez (ONEMA)

The term "ecological services" has been widely used and disseminated among academia, stakeholders and policy makers. It recognizes the strong relationship between biodiversity and humans' well-being through the processes of ecosystems. The mainstream of environmental valuation has been used to highlight the value of nature's contribution or the cost associated with the loss of biodiversity and its ecological services, based on economic reasoning. Ecological services have also intrinsic values, irrespective to its utility, which can motivate its conservation. Nevertheless, society needs to make choices and trade-offs between conservation and development or between different conservation options, or even, between development options. Whatever the value-criteria used, decision-makers need to be informed about the best choices which can maintain natural assets while promoting economic growth and well-being.

Green growth is about fostering economic growth and development while ensuring that natural assets continue to provide the environmental services on which our well-being relies. It is also about fostering investment and innovation which will underpin sustained growth and give rise to new economic opportunities. The need to make political choices considering interdependencies between economic sectors aquatic ecosystems will be exacerbated by population growth, climate change. Tools and methods are needed to measure the level of impact of economic sectors on water ecosystems, as well as to value the contribution of ecological services to the economy. Economic assessment methods have made progress in providing those values and measurements but have failed in fully integrating their results in the decision making process. Accountability of ecological services becomes essential for managing these services at the landscape level as well as for elaborating accurate policy intervention and incentives measures.

Reviewing the effectiveness of the policy tools and economic instruments in maintaining or providing ecological services is a key element for adaptation in a moving institutional environments and social organisations.
Others have stressed the need to focus on the spatial distribution in which ecological services are produced and are captured by different beneficiaries. A geographical information system could be a powerful tool for management purposes in which one can understand better the ecological services at the source of its production and the distribution of values captured at different scale. It is also a strong support to observe trends in the way ecological services are used and changed over time according to societal dynamics and to define the accurate political intervention.

Green growth and ecological services valuation is in fact one of the thematic priorities at the 6th world water forum in Marseille (France). The 6th WWF offers wonderful opportunities to identify success stories and difficult situations in which stakeholders have engaged in actions to manage water resources and aquatic environments. It is also the opportunity for anyone to post solutions aiming at fostering good practices and solving key challenges in water management.

Post your solutions and comments to the thematic 2.4 on "promote green economy and value ecological services" at;
thematic2.4@worldwaterforum6.org
or have a look to www.worldwaterforum6.org

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Joint Programming Initiative:
Water Challenges for a Changing World

On May 4th 2010, the High Level Group (GPC) endorsed the Joint Programming Initiative (JPI) on Water Challenges for a Changing World. The Vision Document has been drafted by representatives of the JPI Partner and Observer countries. It provides the context to this proposal (Trends and Challenges) and outlines the JPI objectives and research questions responding onto the issues and challenges that the European water sector is facing. It identifies research needs on a high level, to be developed further in the JPI Strategic Agenda. The aim is to tackle the ambitious challenge of achieving sustainable water systems for a sustainable economy in Europe and abroad. This will be obtained through a multi-disciplinary approach encompassing economic, ecological, societal and technological considerations.

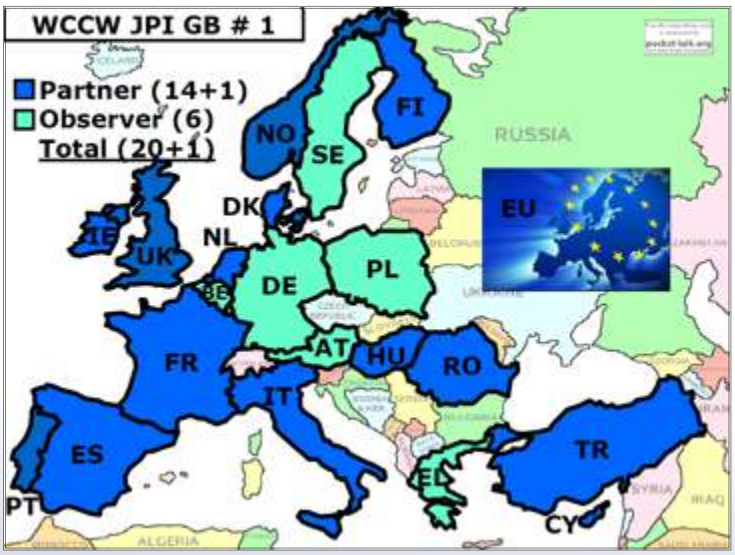
European water policy has ambitious goals and deals with complex and systemic issues. It sets challenges for European Research, Development and Innovation (RDI) in the field of water: developing new knowledge and reinforcing mechanisms for knowledge and technology transfer. Joint Programming Initiatives focus on the strengthening and harmonization of public research and innovation activities. The recent financial crisis and the still struggling European economies call for a change in approach. At the European and global levels, the world is much more interconnected and this leads to the need for globalised solutions across a range of policy areas – including through research. Joint Programming provides the possibility to combine research resources in a more strategic and effective way with a view to tackling grand societal challenges. This will be done by combining national research efforts and making better use of Europe's limited public RDI resources. The water JPI will undoubtedly strengthen Europe's economic position on water.

Major achievements of the proposed JPI is that, over the period September 2010 – April 2011, via the commitment of its Partner and Observer countries, it has been able to:

- Produce a common Vision;
- Design an Implementation Plan;
- Set up an interim Governance;
- Carry out an exercise on Mapping Water Research in Europe.

The recent Recommendation by the European Commission paves the way to a new phase of this JPI. Following the roadmap defined by the European Science Foundation, the JPI completed phase 1 (Orientation), and is making strong progress in phase 2 (Programming). Support from the Commission and endorsement by the Council will lead us to phase 3 (Research and innovation). The Strategic Agenda – our next goal – will mark the transition to phase 3. November as another JPI milestone, with the complete implementation of the Governance structure.

A new JPI task force is in action. This task force has been constituted to prepare the proposal for the forseen Coordination and Support Action and to produce a Frameowrok for a strategic research agenda. The task force will be in action until the proposal submission date, which could be march 20th 2012. Nince partners are curently teaming up in this task force (DK, ES, FR, IT, FI, NO, PT, and UK). The task force will meet for the first time on 16th Dec and will start with the production of the proposal. It will also review how the JPI advisory boards are progressing with the strategic research agenda.



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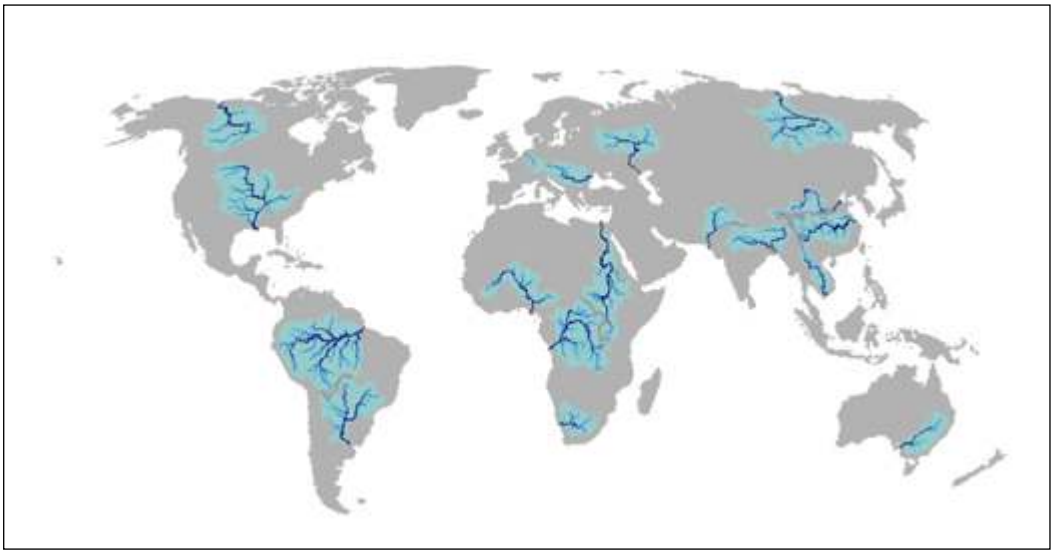
EXPERT VIEW:

New spin on the world's water cycle

18 of the world's largest river systems were covered in detail during the WATCH programme



The water cycle is a key part of the climate system, controlling global atmospheric circulations through the global energy balance. Changes to these balances have far reaching affects, especially considering that human activities have altered not only the land surface but also the atmospheric composition. Changes to the water cycle are likely to lead to a more intense water cycle, resulting in higher localised rainfall (leading to floods) or failure (leading to droughts). Additionally year to year variability is also suggested to increase, resulting in more droughts and large-scale flooding. Such phenomena are expected on the global scale however they will impact simultaneously on regions in different ways. Greater understanding of the changes to the water cycle, specifically at the regional level is needed and much was addressed by the WATCH project (Water and Global Change).

WATCH linked the hydrology, climate and water resources communities towards a united study of the water cycle and how it responds to the drivers of climate change. The common methodologies developed between the climate and hydrology communities have enabled a coherent assessment of the global water cycle. For the first time the global hydrological cycle was assessed on a daily timeframe for the 20th and 21st Century.

A number of tools such as drought and flood atlases have pushed forward our knowledge and provided mechanisms for assessing the frequency and severity of extremes. Model ensembles satisfactorily reproduced the location and extent of large scale droughts. Within WATCH we assessed the ability of relatively coarse large scale data to reproduce droughts in small catchments by comparing to small catchments across Europe. Inputting the more coarse WATCH Forcing Data (rather than detailed local forcing data) into hydrological models did not lead to substantially different drought characteristics for small catchments. Consequently WATCH Forcing Data can be used in data sparse areas. WATCH has made significant progress in understanding and recording hydrological extremes in the 20th century and provided clear evidence that it is possible to model these, both on a European and global scale. Models need to be improved further, though WATCH has demonstrated that such improvements are accelerated by the availability of comprehensive and current observed data.

The dividends of the close working relationship between the climate and water scientist should not be underestimated. The new consolidated datasets developed by WATCH are a strong legacy from the project which underpin its achievements and will provide a resource for environmental scientists for many years. These dataset are publically available (www.eu-watch.org), particularly the WATCH Forcing Data has generated much interest in the wider community. The multi-model outcomes of WATCH have also benefited the assessment of feedbacks and extremes. Climate change, demographic and land-use change, and changing patterns of consumption all drive changes in river flow and water resources. Overall WATCH has delivered a new appreciation of the interaction between the drivers of past and future changes in water resources. Its outputs, summarised in www.eu-watch.tv, can be applied to the task of formulating evidence-based policy with a foundation of sound science.

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PROJECT:

ClimAware
CLIMATE CHANGE IMPACTS ON THE MANAGEMENT OF WATER RESOURCES

This year the CLIMAWARE project meeting took place in September in Bari (Italy) at the Mediterranean Agronomic Institute (IAMB, www.iamb.it). The aim of the meeting was to show the work progress of the activities of each case study and to discuss the various links between the regional case studies and with the modelling approach at the European scale. This was an important step for the development of the framework for the cross-case and the cross-scale comparison planned for next year. To learn more about the background of the Italian case study, IAMB team organised a field trip to one of their investigation sites, an irrigation scheme in the Consortium of Capitanata, in the area of San Ferdinando di Puglia (www.consorzio.fg.it).

This area is affected by water shortage and therefore advanced water distribution systems are essential to manage water in a sustainable way and to guarantee enough water to every farmer. In the area of Capitanata farmers use a pre-programmed electronic card for scheduling irrigation. The electronic card is programmed (by the manager, through a user-friendly software package) in the management office at the beginning of the irrigation season. The seasonal available water volume is pre-loaded on each card, as well as the maximum daily volume to be withdrawn and/or the maximum operating time. The card may be removed during irrigation after the opening signal is transmitted. The closure will be done automatically in case of using the maximum daily volume or in case of exceeding the maximum operating time. In this way, nobody can steal or remove the card during its operation. The aim of the Italian partners is to investigate the impact of climate change on both water availability and demand in the Apulia region in order to adapt water management plans.

The next project meeting will take place in 2012 by the French partner Seine Grands Lacs (www.seinegrandslacs.fr) in Paris where a field trip to the large artificial reservoirs is planned. Further steps of the CLIMAWARE project will be discussed there. For more information on the project: www.uni-kassel.de/go/climaware

PROJECT:

Water Cap & Trade

Water Cap and trade is based on the policy context where there is increasing water scarcity in Mediterranean regions. In this context where climate change reduces available resources and there are increased demands, for example from agriculture and increased environmental allocation (WFD). There will be a need for rationing procedures. Increasing flexibility & efficiency through trading could allow water to be transferred from low to high economic value uses on a voluntary basis with win-win agreements. The kick-off meeting was in January 2011 and since starting, good progress has been made with a review of international experiences leading to the selection of common scenarios. The preliminary agricultural model has been developed (Marais Poitevin) and meetings have been held in Spain, Italy and France with the national and regional stakeholders. A common methodology has been agreed and interviews undertaken at case study level. From this experimental approaches and games to investigate cap and trade scenarios will be taken further

IMPACT – Targeted river restoration in the light of Climate Change

The basic idea of IMPACT is to develop a coupled model to assess the relative importance of anthropogenic pressures operating at different spatial scales, like Climate Change, land use change, migration barriers, reach scale river training, and missing source populations in the catchment. The objective is to identify the main bottlenecks for river biota which should be targeted by river restoration. In the first year, field data have been mapped in natural river reaches in two study catchments, and models describing important processes at different spatial scales have been developed and set up: Catchment models, reach-scale morphodynamic models, and, for the first time, dispersal models for fish and invertebrates to quantify the re-colonization potential. One of the main challenges is to develop interfaces between the models since they consider different spatial and temporal scales. Project partners started to develop different Climate Change and realistic land use scenarios. Most recent negative trends like the increase of energy crops and small hydropower plants will be considered, water managers and ecologists are concerned about and which potentially counteract the objectives of the WFD. Moreover, the effect of catchment wide restoration measures like developing riparian buffer strips will be included in the scenarios.

For more information please visit our website: http://www.impact.igb-berlin.de

TOWARDS A WATER-SAVING AGRICULTURE: A FRAMEWORK FOR ADAPTATION

Together with socio-economic and policy changes, climate change deeply affects sustainable patterns of water management. Now in its second year, the IWRM-net ICARUS project (Climate Change Adaptation in Rural Social-Ecosystems in Southern Europe, see Figure) explores autonomous and planned adaptation strategies for saving water in irrigated production systems within a medium-term timeframe (until 2030). Planned adaptations are policy-driven, whilst autonomous adaptations are determined at individual level. The project's activities focus on proposing a framework, which incorporates different components of the social dimension of adaptation, facilitating its integration in decision-making (see Figure). Particularly, innovative online participatory tools are developed and tested. A first online questionnaire was already compiled by 600 farmers from the Italian case study, which revealed their perceptions of climate, economic, institutional and individual changes; the existence of - and a need for - adaptation measures in the area of crop and irrigation management; and the relevance of information availability (i.e. agro-meteorological bulletin), which however should be improved to suit better farmers' requirements. All those information set the frame for the development of a few adaptation strategies for the area. Next steps will entail (i) a preliminary meetings with experts for the definition of pre-identified strategies to suit local contexts, and consolidate water saving strategies and indicators for their evaluation by the stakeholders; (ii) a second online questionnaire to gather preferences and expectation of farmers in terms of investments priorities for water saving; (iii) a final workshop for strategies' validation against different scenarios, in order to define potential prerequisites for their implementation.

Back Page Blog

Natacha Amorsi

Science policy interface has become a fa ashionable word to use and there are increasingly conferences and books produced on the subject, but do we really know what it means? Is it really something new that we have not been doing before or are we disguising previous work into something new as a means of finding funding to talk to our friends?

Perhaps this is a little cynical but these questions and comment's that I have heard around the subject prompted me to help in writing a chapter in the book 'Water System Science and Policy Interfacing', edited by Phillipe Quevauviller and published by the Royal Society of Chemistry. The book documented the expeience of many practitioners in the field of water management and science policy interface and discusses many things - our section was based on the experience of the IWRM-net project. In particular it highlighted that research results are difficult to plan and buy 'off the shelf', research tends to bring about more questions than answers but policy, and in particular policy implementation, is usually govened by a fixed timeline, e.g. the steps of the WFD implementation are set. This leads to a challenge based on different needs - policy makers and implementers require answers today, whereas researchers always need more time.

Furthermore, science is often expected to provide straightforward questions, whereas scientist will in general always present results with a level of certainty that can be wide ranging. This is not as easy as one would expect - eventhough clear answers are expected, policy makers and implementers always make policy decision under uncertainty.

Policy representatives expect researchers to elicit the right research questions from policy documents; whereas scientists expect policy makers to specify policy to a level that research needs are clearly specified. Thus a key barrier in the science–policy interface is the differences in language and understanding. For example, the WFD speaks of 'water bodies'. This term is new to the scientific domain. IWRM-net was a group predominantly of research funders and they clearly set the goal of ensuring that science policy interface was part of the funding aspects. In recognising that the research projects and researchers themselves have so little time the SPI aspects of the second call were deliberately put into an extra project called the 'SCP' - and here we are, communicating to a wide audience the research projects and the results they will produce.

Personal musings on science policy interface..

Thus a key barrier in the science–policy interface is the differences in language and understanding

If you have any comments please send them to n.amorsi@oieau.fr

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