

SEDNET E-NEWSLETTER – OCTOBER / NOVEMBER 2005

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New SedNet website

As you will notice, we adapted the layout and structure of the SedNet website. Furthermore, we added some new functionalities: a [Search engine](#), a [Download section](#), and an [Event calender](#).

SedNet would be happy to make your important sediment related events and/or documents (reports, statements, etc., also in non English languages) known and available through the SedNet website, preferably through a link to your own website. This can be done by uploading these events and/or documents yourself through the website or by sending an email to the [secretariat](#) in which you supply (in case of documents):

1. the title of the publication
2. a 3-line summary in English
3. a PDF copy of the document and/or a weblink to that document
4. a brief note/statement in which you indicate that the information, without restrictions, can be made available through the SedNet website.

We would very much appreciate your suggestions for further improvement of the website and/or your comments if you detect any 'bugs'. Please send these to the SedNet [secretariat](#) and/or use the website functionality for that.

Recent developments relevant to soils in Europe

There have been many exciting developments recently that relate directly to soils research and soil resources within the EU. Here we would like to mention three of these: The Soil Atlas of Europe; the second edition of The Soil Resources of Europe publication by the Joint Research Centre (JRC); and the EC-funded project ENVASSO. The Soil Atlas of Europe was launched in London in October 2005. Its aim is to support the EU Thematic Strategy for Soil Protection by providing comprehensive information about European soils and by raising awareness of issues affecting soils. The maps in the atlas were based on information provided by the European Soil Bureau Network, a collection of organisations from all the countries of Europe that are responsible for mapping and managing soils. The Soil Resources of Europe by Jones et al. (2005, EUR 20559 EN) provides the most comprehensive summary yet attempted of the current position regarding the detail and availability of soil information, particularly spatial data, at national and European levels. This second edition incorporates chapters on all the EU Member States, including those that joined the Union in May 2004, current Candidate Countries and a number of Neighbouring Countries that have close relations with the EU. It includes a contribution on the recent activities of the European Soil Bureau and a summary of the current position of soil survey, soil monitoring and soil information management in Europe. The ENVASSO Project – ENVironmental ASsessment of Soil for monitoring – has just been funded within the last round of FP6 projects. It will distil existing data, interpretation, and approaches to soil inventory/monitoring to create a working prototype database structure, and Procedures and Protocols for harmonised soil assessment throughout Europe. The objectives will be achieved by five core partners supported by 32 additional partners drawn from all 25 EU Member States ensuring maximum impact to enhance soil protection at European level. All the partners are members, or have close links with the European Soil Bureau Network and include EU and Associated States. For further information on any of these then please contact Phil Owens (Philip.owens@bbsrc.ac.uk).

SETAC-EU/SedNet Advisory group on sediments: Proposed sessions for the upcoming SETAC conference in The Hague

Sediments have recently received a new level of attention from scientists, administrators and business-people in Europe. Whilst much of this attention stems from the growing recognition that effective sediment management is intrinsic to achieving the "good quality status of surface waters" mandated by the Water Framework Directive, it is also recognized that sediments must be considered when planning longer-term industrial or environmental activities, policies and environmental quality criteria. Sediments record a past in which contaminants like cadmium and HCB were discarded in immense quantities in rivers, dioxins accumulated to parts per million levels around industrial facilities and concepts like the non-deterioration principle and the Strategic Environmental Assessment Directive were no part of management decisions. Today, Europe must address the issue of sediments if it is to fulfill its increasingly ambitious environmental standards. This can be an expensive task, and even more so if it is not understood that the highest hazards do not necessarily present the highest risks and if it is still uncertain what controls and how to predict the relationship between sediment/contaminant interactions, bioavailability and ecosystem response. But the difference between hazard and risk is not only defined by the chemical and biological parameters that are traditionally considered to predict bioavailability. Instead, the risks that sediments pose to the ecosystem are highly dynamic, and are also controlled by the geological properties of sediments and the complex physical, dynamical, and biological environment that controls how and when they are resuspended and transported. It is in this context that one recognizes that sustainable sediment management cannot be carried without consideration of the complex interrelationships between sediments and other matrices as part of a soil-water-sediment system, which becomes especially apparent during floods and droughts.

Understanding the complexity and the interdisciplinary nature of sediment science and management, the SETAC-Europe/SedNet Advisory group for Sediments was founded during the last SETAC-Europe Conference in Lille. At this meeting, it was suggested that the advisory group should operate on the SETAC World level, because there is a broad expertise in Setac North America. However, as this is a long term goal, it was agreed that the first step should be to establish and organise the sediment activities within SETAC Europe. An examination of the last Europe annual meetings program revealed that, although there were sediment presentations in various sessions, sediment was not a main topic. Thus, as the sediment theme was not visible in SETAC Europe, the new Advisory group aims to facilitate communication and interaction between SETAC, SedNet (see below), sediment risk management-oriented working groups in Europe, and between European and International groups working in this topic. We hope to provide a forum for creative and unconventional discussions, which will be reported in this Sediment Corner, and to the broader SedNet community (see next section). An opportunity for discussion will be the upcoming SETAC Europe conference in The Hague, Netherlands, in 2006, for which the Advisory group has suggested a number of sediment sessions that span policy concepts, the effects of floods and droughts, Sediment Quality Standards, methods in ecotoxicology, chemical processes and biological functions in sediments. Sessions have been designed to promote cross-disciplinarity, with the hope that discussions and questions raised within and between sessions will focus on how to better enhance the links between science, policy and sound decision making.

The proposed sessions are briefly described below, and these and others (some of them also sediment-related) can be found at <http://www.setaceumeeting.org/thehague/>. We encourage you to consider sending abstracts for these sessions, attending the discussions, and taking a part in the dialogue on the role of sediments in ecosystem-based management in Europe and beyond.

Contaminated Sediments (CS)

Chemical processes and interactions in sediments (CS5)

Inhomogeneity on different scales with regard to various abiotic and biotic parameters makes sediment chemistry a highly complex topic. Thus, in spite of many advances in recent decades, much remains to be learned about bioavailability, transport, transformation and degradation of substances in sediments. Although necessary for planning risk management strategies, predictions of long-term effects remain difficult and always involve some degree of uncertainty. This session invites abstracts on basic research on processes and interactions between matrices and substances in sediments as well as at interfaces between sediment, soil, water and biological surfaces. This session will emphasise chemical processes that occur or are influenced by environmental conditions (e.g. temperature, redox state, fluid dynamics, sediment type, etc), that may lead to sequestration, transport or transformation of pollutants. How do these conditions affect bioavailability, and thus, risk, of contaminants in sediments? How might this affect

management strategies?

Floods and droughts: Chemistry, Toxicity & Risks of soil and sediment becoming suspended matter (CS2)

In dynamic aquatic systems, for instance river and coastal systems, inundation, floods and droughts may significantly affect the stability of soils and sediments. Mobilisation of soils and sediments, changing redox conditions, or desiccation of sediments may drastically alter the availability, exposure and risks of soil and sediment-associated pollutants, as well as the quality of habitats even when pollutants are not an issue. This depends on stability/erosion properties of sediments, human activities and hydrodynamics, as well as on properties of the pollutants. In many systems, the frequency of these processes is expected to increase due to climate change. This session invites abstracts on these issues, and aims at integrating sediment mobility/dynamic into exposure assessment – under normal and under flood/drought conditions.

Development and application of Sediment Quality Standards (CS3)

Sediment quality standards are a regulatory tool to facilitate decision making. They are an important part of risk assessment studies. Ecotoxicological information, chemical data, technological feasibility, societal pressure and economical constraints may all influence their determination. If misguided they can determine success or failure of sediment management activities. This session invites abstracts on the regulatory needs and environmental basis of Sediment quality assessment and management. Case studies, both successful and unsuccessful, on sediment management, the use of Sediment Quality Standards and their alternatives in the decision process, and on regulatory approaches to sediment quality assessment and management are invited.

Policy concepts around sustainable sediment management (CS1)

Sediment management is subject to a variety of interests and thus to be seen in a political context. Scientific assessment of risks is just one part of the decision process, which must be balanced with economic constraints, technological feasibility, communication of objectives, methods and potential consequences to all interest groups in the long-term planning for the achievement of management issues. Regulatory frameworks can assist in these management aspects. Their development is a time-intensive process that seeks to ensure that all important aspects are considered. This session invites abstracts concerning sediment management in relation to recent policy developments. Specific topics are: (a) Sediment management in the scope of the Water Framework Directive (WFD), challenges and holistic approaches, or (b) Carrying out sediment risk assessment in support of “Good Ecological Status” – do we need to expand the risk concept? It is clear that “traditional” ecological risk assessments for sediments and other media have focussed on the effects and control of anthropogenic contaminants. However, compliance with goals of the WFD and other ecosystem-based directives and strategies will require that other pressures, such as habitat loss, hydrodynamic change, thermal pressures, introduced species, etc., will need to be taken into account. Furthermore, basin-scale management will require considerations of scale outside the scope of current standard approaches. If these parameters are to be easily addressed in the current regulatory frameworks, it is suggested that these frameworks should be expanded to embrace these broader pressures and scales. We particularly invite abstracts that address how current paradigms, policies and methodologies are being or can be expanded to meet these emerging objectives.

Methods in sediment ecotoxicology (CS4)

Although test setup, variations in test results, and parameter control are more difficult in sediment than in elutriate or water testing, it is necessary to include direct effects of sediment contact in biotesting. Assays in which sediment contact is simulated, different extraction methods or biotests in which laboratory test organisms are directly exposed to contaminated sediments have been developed in order to predict the toxicity of sediment-bound or accumulated substances to organisms. This session invites abstracts concerning sediment toxicity testing, e.g. biological, chemical and effect-directed analysis for assessing toxicity of sediments. Papers ranging from the examination of specific biological endpoints to the relevance of such measures on population or ecosystem health are encouraged. Papers on the role and reliability of these methods in assessment, management, decision and communication frameworks are also invited.

Biodiversity, functional diversity and redundancy of functions in sediments (CS6)

Impediment of the sediment community is one of the pillars in sediment risk assessment. This is often done by macrozoobenthos studies, but the relevance of diversity as a parameter to assess sediment quality is still the subject of some debate. Other aspects such as the investigation of indicator species, functional diversity and redundancy of functions in sediments as an indicator to assess stability of a community have been suggested. Many indicators of benthic community/ecological status currently being developed for the WFD are based primarily on community structure (the composition and abundance of organisms in the sediments). However, in

complex and dynamic aquatic systems, structure can be affected by countless natural and man-made factors, making it a difficult parameter with which to establish causality, design mitigation, or establish an improvement. It would be helpful then, also to evaluate ecosystem status in terms of ecosystem functioning. Benthic ecosystem services are definable in terms of important functions carried out by the benthic community such as nutrient regeneration, bioturbation, oxygen uptake, stability, contaminant uptake capacity, etc (see www.cobo.org.uk). Through an understanding of the links between sediments and benthic communities and larger ecosystems, the role of sediments in larger ecosystem functioning can also be addressed.

This session invites abstracts on methods to assess stability and health of a sediment community, methods to integrate these concepts into a regulatory context, as well as case studies using these concepts. Papers presenting different methods of addressing ecological quality, in terms of the WFD, and other objectives, are invited for this session. Thus, papers addressing not only diversity but also different (metabolic) functions and their ecological significance, as well as their redundancy and the role such parameters could play in ecological impact assessment are sought.

Communicating European Research 2005

**International Conference
Brussels Exhibition Center (Heysel)
14-15 November 2005**

TNO will be present at the event below with a booth where, amongst others, SedNet will be (re)presented. The booth can be found in Hal 7, Row D, standnumber 068.

On 14-15 November, the European Commission's Directorate-General for Research will host the second "Communicating European Research" conference. Based on the very positive experiences from the 2004 edition, the event will focus on the manifold aspects of science communication and will provide an excellent forum and meeting place for scientists, communication professionals and journalists. The conference will also take stock of the way towards the Seventh Framework Programme.

Around 3000 participants including project co-ordinators, journalists and other communication professionals, press officers and representatives from research organisations will meet to promote mutual understanding of their respective roles, to share best practice and to define strategies to improve communication, outreach and dissemination of research results to the public and the press at a European level.

Throughout the event, latest research results and current scientific activities will be presented to the media in press conferences and media briefings. A huge exhibition will feature selected research initiatives as well as the communication strategies of research organisations. Dissemination networks, media associations, relevant publications and editorials together with companies and service providers in the field of information and communication will present their products and services.

At the time of CER 2005, the preparation of the 7th Framework Programme will be in full swing and the current state of play will be presented. FP6 already emphasized communication and dissemination tasks and contributed greatly to raising awareness of these fundamental requirements. Should FP7 take us a step further? How can the effectiveness of EU-funded research benefit from more concrete communication and dissemination schemes? What activities and at what level should be encouraged or even made obligatory?

Learning about successes and failures of others, sharing own experiences, meeting players from different ends of the communication spectrum will certainly spin off numerous ideas and initiatives. Above that, hands-on workshops and tutorials will provide the opportunity to hone some of your communications skills. And who knows, you might even learn a new trick... communication strategies of research organisations, media associations, relevant publications and editorials together with companies and all kind of service providers in the field of information and communication of science.

More info available at:

http://europa.eu.int/comm/research/conferences/2005/cer2005/index_en.html

Recent Publications

Fine-grained sediment in river systems: environmental significance and management issues.

Published in "River Research and Applications", 21 (7), 693-717.

P.N. Owens, R.J. Batalla, A.J. Collins, B. Gomez, D.M. Hicks, A.J. Horowitz, G.M. Kondolf,

M. Marden, M.J. Page, D.H. Peacock, E.L. Petticrew, W. Salomons, N.A. Trustrum (2005).
It is a joint SedNet WP2 publication with other partners from North America and New Zealand and directly come out of the author attending a conference in France in 2002 representing SedNet.

The publication can be downloaded by going to the following website:

<http://www3.interscience.wiley.com/cgi-bin/jhome/90010544>

Click on "issues" and then "volume 21, issue 7" and then the appropriate paper.

The paper can also be requested as a pdf file directly from Phil Owens (philip.owens@bbsrc.ac.uk).

Upcoming events

Postponement of registration deadline for SEDYMO-conference

The deadline for registration for the International SEDYMO- Symposium on "Sediment Dynamics and Pollutant Mobility in River Basins", which will be held at the *Hamburg University of Technology (TUHH), on March 26 to 29, 2006, has been postponed until November 30th. Contents and objectives of the conference can be viewed at

http://www.tu-harburg.de/ut/sedymo/english/e_even/e_even.htm

Call for abstracts

SETAC Europe 16th Annual Meeting, May 7th-11th, 2006, the Hague, the Netherlands

If you wish to submit an abstract then please visit this [link](#).

Abstracts can be submitted until 30 November 2005.

More events

2005

- **November 14th, 2005**
Risk Assessment elements for the Management of Contaminated Sediments, Rome, Italy. Organised by the Italian National Institute for Health. For further info see the workshop program at the [SedNet Event Calender](#)
- **November 14-15th, 2005**
Second "Communicating European Research" conference and exhibition in Brussels. The event will focus on the manifold aspects of science communication and will provide an excellent forum and meeting place for scientists, communication professionals and journalists. The conference will also take stock of the way towards the 7th Framework Programme. Hosted by the European Commission's Directorate General for Research. The first announcement of this event (pdf format) can be retrieved from the library section of the SedNet website <http://www.sednet.org/>
- **November 14-16th, 2005**
2nd International Symposium on Permeable Reactive Barriers and Reactive Zones / International Workshop on Sustainable Development of Heavy Metal Contaminated Sites, Antwerp, Belgium. Organised by VITO Belgium. More info at www.vito.be/vitoevenement/evenementenlijst.asp
- **November 16-17th, 2005**
Workshop Sediment Management in River Basins: Applications to the Water Framework Directive Implementation, organised by Manchester Metropolitan University and National Soil Resources Institute, Cranfield University, UK.
The flyer (pdf format) can also be retrieved from the library section of the SedNet website <http://www.sednet.org/> .

2006

- **February 14-15th, 2006**
BOSICON 2006 – International Conference on the Remediation of Polluted Sites, Rome, Italy. Organised by the University of Rome. For further info visit <http://w3.uniroma1.it/bosicon/>
- **March 13-16th, 2006**
16th Annual West Coast Conference on Soils, Sediments and Water, San Diego, California, USA. Organised by the Association for Environmental Health and Sciences (AEHS). For more info: www.aehs.com
- **March 26th-29th, 2006**

Symposium on Sediment Dynamics and Pollutant Mobility in River Basins at the Hamburg University of Technology, Germany.

Preliminary programme: www.tu-hartburg.de/ut/sedymo/

- **May 7th-11th, 2006**
SETAC Europe 16th Annual Meeting, the Hague, the Netherlands –
www.setaceumeeting.org/thehague/
- **July 3rd – 7th, 2006**
Dundee, Scotland. International symposium on Sediment dynamics and the hydromorphology of fluvial systems.
- **Miscellaneous workshops** throughout the year on Environmental Forensics, organised by the International Society of Environmental Forensics. See www.environmentalforensics.org for more info.

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