

IASWS NEWSLETTER No. 5

A WORD FROM THE PRESIDENT



Dr. Ellen Petticrew

The International Association for Sediment and Water Science was created following a meeting in Amsterdam, where 169 multidisciplinary researchers who shared an interest in sediment-water science convened in 1976. A decision was made to organize future meetings with this integrated focus as progress in this rapidly expanding field of aquatic science warranted in an interdisciplinary forum. As the environmental concern associated with the roles of sediment and water have continued to increase in the 27 years since the first meeting in Amsterdam the group has continued to meet on a three year cycle. The IASWS was developed specifically to ensure this tri-annual symposium occurred as we believe both the focus and the scale of the meetings encourage interaction and exchange among the wide range of individuals and disciplines that investigate sediment and water science.

In this first newsletter of 2003, I would like to welcome all the new members of the IASWS, and remind all of our membership about the upcoming symposium in Slovenia in 2005. Our last meeting in Banff, Canada was considered a success by a number of different measures (see the summary in this newsletter). This meeting resulted in 45 new members, with a large number of these being graduate students. We are hoping to maintain the student involvement in the future as we see this as an excellent means of previewing new work and people in the research field. I would like to thank Jens Skei for his role as the IASWS president for the period of 1999-2002 and congratulate him on achieving his goals of increasing membership and working to make the Banff symposium a success. A special thanks to Graeme Cross our Webmaster at Monash University, Australia who has maintained the Association's web site over the last several symposia.

I encourage our members, most of who are affiliated with other disciplinary societies to share our news with your colleagues and specifically to ensure they are aware of the upcoming meeting in Slovenia. We are pleased to be having the 10th symposium on the Interaction of Sediment and Water hosted by Drs Jadran Faganeli (National Institute of Biology), Milena Horvat and Nives Ogrinc (Department of Environmental Sciences, Jozef Stefan Institute). More specific details of the upcoming meeting follow in this newsletter.

I look forward to seeing you again in Bled, Slovenia in 2005.

2005 IASWS SYMPOSIUM

2005 Symposium co-Chairs: Dr. Jadran Faganeli, National Institute of Biology and Dr. Milena Horvat and Dr. Nives Ogrinc, Department of Environmental Sciences, Jozef Stefan Institute.

We are excited to be Chairing the 10th IASWS International Symposium on the Interactions between Sediment and Water in beautiful Bled, Slovenia. The Symposium will provide an excellent forum for you to present your recent research findings, discuss them with your peers and to explore all that Slovenia has to offer. The venue of Lake Bled provides a beautiful location to explore the realms of sediment water interactions. The scientific program will prove stimulating given the five main themes of 1) Source, fate and effect of sediments in marine and freshwater ecosystems, 2) Sediment associated Nutrient and Contaminant Transport, 3) Assessing and/or Restoring Disturbed Catchments, 4) Biogenic influences on sediment-water interactions from the micro to macro scale and 5) Modeling the movement of aquatic sediments. Oral and poster presentations will be given in support of these themes. Student participation is encouraged with lower registration costs to assist them (costs will be set in the second circular). The Symposium will include some organized field trips around the Lake Bled area and an opportunity for memorable post Symposium excursions further abroad.



Lake Bled, Slovenia

We would like to encourage you to attend this interdisciplinary meeting which draws biologists, chemists, engineers and earth scientists from around the world. We are looking forward to providing a comfortable and scenic location for an international group of colleagues to present results and discuss sediment and water science. More information on the Lake Bled area, hotel, and registration may be found on the IASWS website. www.iasws.com

HIGHLIGHTS OF THE 2002 IASWS SYMPOSIUM

The 9th International Symposium on the Interactions between Sediments and Water was held within the Banff Springs Hotel, Banff, Canada between May 5-10, 2002. The Symposium brought together a wide range of researchers from disciplines including limnology, oceanography, hydrology, biogeochemistry, geomorphology, sedimentology, aquatic ecology, and environmental engineering. This Symposium was the next in a series which began in Amsterdam, Netherlands in 1976 and has continued on a three year cycle, meeting in Canada (1981), Switzerland (1984), Australia (1987), Sweden (1990), United States (1993), Italy (1996) and China (1999). These tri-annual symposiums provide a forum for interdisciplinary discussions with the aim of better integrating the biological, physical and chemical processes between sediments and water. The Symposium allowed for the exchange of ideas, techniques and approaches and fostered future collaborations.

One hundred and forty delegates attended the 9th Symposium, representing 31 countries. A pleasing statistic from this years' symposium was the number of graduate students who presented their research. Twenty four students from as far away as Korea, Australia and the United Kingdom attended the symposium and as a result we plan to provide some financial support to assist out-of-country students to attend the 2005 Symposium in Lake Bled, Slovenia in early September, 2005.



Banff Springs Hotel: Canada's Castle in the Rockies.



The Bow River: View from the Banff Springs Hotel.



Emerald River flowing to Lake Louise.



Lake Louise as seen by Delegates.

Banff, Canada was an excellent venue for a sediment and water symposium, as it provided a superb visual setting among sedimentary mountains and gravel bed rivers. These past and present sediment-water activities were a constant reminder of the scientific focus from our vantage point at the Banff Springs Hotel, nestled in the Rocky Mountains along the Bow River. Delegates and accompanying persons took a full day field trip into the mountains mid-week to view and hear about the geologic and general history of Banff National Park, a UNESCO World Heritage Site and Yoho National Park, the location of the Burgess Shale. Commentary on the wildlife, ecology and park management issues were provided as well.



Native Hoop Dancer

The social aspects of the symposium included the traditional Thursday night banquet held within the beautiful Banff Springs Hotel. The banquet allowed delegates to sample local cuisine of Arctic Char, Caribou, wild rice and for dessert maple mousse complimented with local BC wines. Delegates were also entertained by a demonstration of the native Indian hoop dance performed by the international champion. Post Symposium excursions included a trip set to explore the culture of the native Indians and a tour of the Bad Lands of Alberta. This trip demonstrated the diverse topography that Canada offers in a relatively small geographical area.



Dry but beautiful! The highly dissected topography of the Bad Lands.

The scientific program of the 9th Symposium focused on three main themes, the evaluation and/or restoration of disturbed watersheds, linkages between terrestrial and aquatic environments, and the role of sediment and water interactions in evaluating change in aquatic habitats. Three concurrent sessions, one representing each of the themes comprised 110 presentations in 29 sessions. Of these, five sessions focused on sediment budgets, three sessions on biological and sediment interactions, eight sessions on sediment associated contaminants or nutrients, six on disturbed catchments, two on sediment-water dynamics and one on risk assessment. A well attended poster session had 28 presentations covering the full range of themes.

Three plenary speakers were invited to address each of the themes. The first theme “Assessing and/or Restoring Disturbed Watersheds” was introduced with a plenary talk by Dr. Gordon Grant (United States Department of Agriculture, Forest Service) who spoke on “Emerging Issues for Water, Sediment and Rivers – an International and Cross-Cultural comparison”. This first presentation of the meeting set the stage by presenting an overview of how strongly water and sediment issues are conditioned by their social and geomorphic settings. A range of international settings were provided as case studies. The plenary speaker for the second theme “Sediment-Water Linkages in Terrestrial and Aquatic Environments” was Dr. Olav Slaymaker (University of British Columbia, Geography). He discussed the strengths and weaknesses of using sediment budgets as a conceptual tool for integrated watershed management. A main point was that most studies emphasize only one of the three components of mass transfer (clastics, solute and nutrients) while the problems that currently exist in catchment management require knowledge and information of all three. Dr. Markus Huettel (Max Plank Institute for Marine Microbiology) was the plenary speaker for the third theme “Evaluating Change in Saline and/or Freshwater Habitats.” He spoke on the hydrodynamic impact of biogeochemical processes in aquatic sediments. He presented data from a number of experiments, emphasizing that the diffusive boundary layer near the sediment-water

interface changes as a function of micro-topography, benthic activity and sediment porosity, resulting in complex biogeochemical transport processes.

Several recurring issues were identified during the symposium. The critical importance of accuracy and precision in measurements of fluxes was emphasized in several talks, discussions and posters. As well the need to be able to distinguish sampling and analytical variability from true spatial variability was discussed. Both of these concerns relate to the need for minimizing errors associated with the measurement of inputs and outputs and the importance of selecting representative sites. The fate of sediments and their associated contaminants were addressed using a wide range of techniques including geochemical fingerprinting, GIS, remote sensing, isotopic dating and numerical and empirical modeling.

Approximately 60 papers were submitted after the symposium for review for a special issue of *Hydrobiologia*. These symposium proceedings will also be published as a special volume in the near future. The editor of the proceedings is Dr. Brian Kronvang, National Environment Research Institute, Vejlsovej 25, Silkeborg, Denmark-8600. Anyone requiring information or copies can contact him by mail or electronically at bkr@dmu.dk. The abstracts for the meeting are currently located on the IASWS website: www.iasws.com/pdf/2002_Abstracts.pdf

Anyone wishing to join the IASWS (\$ 25 US) can contact the IASWS secretary Dr Carolyn Oldham at iasws@cwr.uwa.edu.au.

The Organizing Committee would like to acknowledge the financial and in-kind support from the International Association of Sediment and Water Science (IASWS), the



From Left to right: Kathy Mawhorter and Karen Petticrew (Symposium Assistants) and Ellen Petticrew and Ian Droppo (Symposium Co-Chairs).

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