

# LOICZ NEWSLETTER

The LOICZ Newsletter is produced quarterly to provide news and information regarding LOICZ activities

## CONTENTS

### "Coasts and Coastal People – Scenarios of Change and Response"

The LOICZ II Inaugural Open Science Meeting, (27-29 June 2005, Egmond aan Zee, The Netherlands), sets the stage for the next decade of Earth System and Human Dimension Sciences in coastal zones

APN Report on Global Change and Coastal Zone Management – wrapping up 10 years of targeted research and future ways towards informing coastal zone sustainability

by Nick Harvey

Meeting report on:

Coastal Zone Management Summer school by IOW Warnemuende – a mutually beneficial experience of intercultural learning in a complex field

IPO Notes:

MOU between LOICZ and GKSS signed, SSC update Publications, Meetings & Workshops

### "Coasts and Coastal People – Scenarios of Change and Response"

The LOICZ II Inaugural Open Science Meeting, (27-29 June 2005, Egmond aan Zee, The Netherlands), sets the stage for the next decade of Earth System and Human Dimension Sciences in coastal zones

The LOICZ Inaugural Open Science Meeting 2005 ushered LOICZ's second decade as a global change project. Building on its strengths in examining material fluxes from catchments to coast, the LOICZ project will now embark on a broadly expanded research framework focusing on the interactions between humans, ecosystems and material fluxes as drivers of coastal change. Over the three days of the meeting, a community of some 270 coastal scientists and managers representing 52 countries engaged in discussion about these interactions and their trajectories of change, including ways to approach sustainable coastal scenarios.

The structure of the meeting was designed to provide an opportunity for LOICZ and its existing network, as well as those new to the project including a growing number of human dimensions scientists, to reflect on the first 10 years of LOICZ research, its achievements and the emerging challenges that will inform future LOICZ scientific attention and direction.

The meeting was organised around 4 components:

1. *Plenary Presentations* were deliberately selected to be forward looking and provocative in their review of past and present scientific successes and failures, as well as introducing the broad domain of research themes and cross-cutting tasks that are encompassed within the new LOICZ

Science Plan and Implementation Strategy (SPIS). They introduced some of the science challenges that face the next 10 years of LOICZ activity and set the stage for looking at the appropriate scientific frameworks.

2. *Contributed Sessions* provided opportunity for speakers to present the principal outcomes of recent research findings. Morning sessions were specifically linked to the research themes identified in the LOICZ SPIS. They were organised by a convenor drawn from the LOICZ Scientific Steering Committee or close affiliate. An invited co-convenor from the wider scientific community gave a keynote talk to place the session in the broader context of global environmental change and helped the meeting gain the broadest outreach and perspective. In the afternoon Continuation Sessions featured extra papers cutting across the theme structure of the LOICZ SPIS.

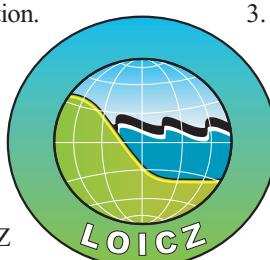


Each meeting day started and finished in plenary.

(photo: Juan José Del Toro Madrueño)

A special session was dedicated to the Dutch LOICZ. Convened by the Netherlands Science Foundation, NWO, this session provided insight in the forefront of current coastal research carried out as part of the Dutch LOICZ national project. The session speakers covered a wide range of issues from historical reviews of coastal system development under human and global change pressure to the most recent findings of the role of prokaryote microorganisms in global nitrogen cycles towards decision support systems, and interdisciplinary approaches for ecosystem functioning and system change monitoring which include choke and switch points for intervention in a holistic appreciation of multiple regional and global change forcing.

3. *Workshops* provided an opportunity for groups to discuss specific areas of research and interest to LOICZ. They identified the gaps in knowledge, the future challenges and formulated the contribution that future LOICZ activities should make. Each workshop prepared a short report of their deliberations to report back to the whole meeting in Plenary and to close each day.



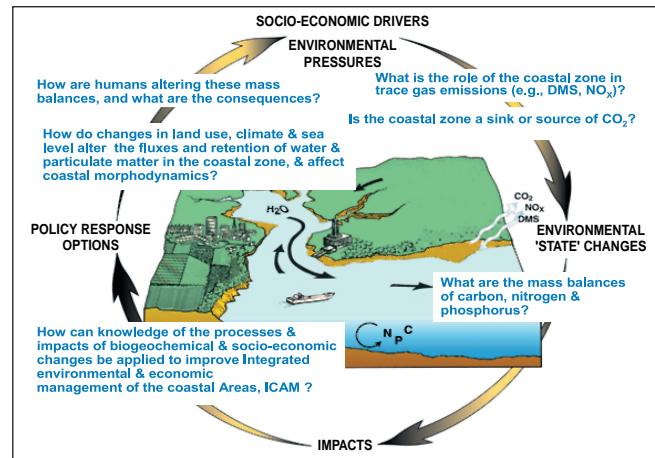
4. *Poster presentations* set up throughout the whole Meeting and extended publication displays were an important additional feature in the LOICZ IOSM and complemented the oral presentations.

The programme of the sessions and workshops is shown in Table 1.

Monday 27 June	Tuesday 28 June	Wednesday 29 June
Welcome and Opening Address: LOICZ – past present & future		
<b>Plenary 1:</b> Human Dimensions and Global Environmental Change	<b>Plenary 2:</b> Managing Canada's oceans and coasts: A framework and an emerging plan	<b>Plenary 4:</b> Making the connection between healthy waterways and healthy catchments
<b>Plenary 2:</b> Coastal ecology in a changing world: can we provide the answers we promised?	<b>Plenary 3:</b> Interaction between eutrophication and suspended matter dynamics of a shallow coastal sea	<b>Plenary 6:</b> Ecosystem-based knowledge for coastal governance
Morning coffee/tea		
Parallel Sessions		
<b>Session 1:</b> Climate change and the coastal zone	<b>Session 7:</b> Geohazards, ground water and risk	<b>Session 13:</b> Coastal Assessments
<b>Session 2:</b> Land-Ocean interactions on vulnerable coastal ecosystems (lagoons)	<b>Session 8:</b> Ecosystems, land and sea use (Deltas)	<b>Session 14:</b> Urbanisation
<b>Session 3:</b> Sediment flux to the coastal zone: climate change, anthropogenic influences and future trends	<b>Session 9:</b> Coastal waters hydrology: from the mountains to the coast	<b>Session 15:</b> Nutrient flux to the coastal zone: trends and implications
<b>Session 4:</b> Biogeochemical budgets	<b>Session 10:</b> Application of Remote sensing for Coastal Area management	<b>Session 16:</b> Shelf processes and the Earth System (Joint session with IMBER/SOLAS)
<b>Session 5:</b> Human coastal communities	<b>Session 11:</b> Integrated assessment of coastal change and management: Socio-economic modelling and future scenarios	<b>Session 17:</b> Coastal ecosystem governance
<b>Session 6:</b> Science, society and management of coastal zones	<b>Session 12:</b> Highlights of Dutch Coastal Zone Research	<b>Session 18:</b> Coastal typologies and datasets
Lunch		
Workshops & Continuation Sessions		
<b>Continuation Session 19:</b> Climate change and ecological resources	<b>Continuation Session 20:</b> Nutrients, sediments and budgets	<b>Continuation Session 21:</b> Managing the coastal zone
<b>Workshop 1:</b> Risk and vulnerability of Coastal Systems due to Climate Change	<b>Workshop 5:</b> Issues in scale of bridging the natural and social sciences	<b>Workshop 9:</b> Coastal Assessments
<b>Workshop 2:</b> Integrated Coastal Zone Management and LOICZ – Current status	<b>Workshop 6:</b> Conceptual synthesis of global coastal environments	<b>Workshop 10:</b> Gauging Progress in Coastal Governance
<b>Workshop 3:</b> Coastal Biogeochemical and Ecological models	<b>Workshop 7:</b> Integrating Socio-economic variables in mapping and modelling material deliveries from catchment to coast	<b>Workshop 11:</b> From river to coast: Collaboration between GWSP and LOICZ
<b>Workshop 4:</b> Raising awareness and ownership of coastal management initiatives s	<b>Workshop 8:</b> Marine Protected Areas – a management tool for ICZM?	<b>Workshop 12:</b> Implementation, Integration, and Participation: Strategies for LOICZ II
<b>POSTER SESSION &amp; ICEBREAKER</b>	<b>MEETING DINNER</b>	

**Table 1.** The LOICZ Inaugural Open Science (IOSM 2005) Meeting programme.

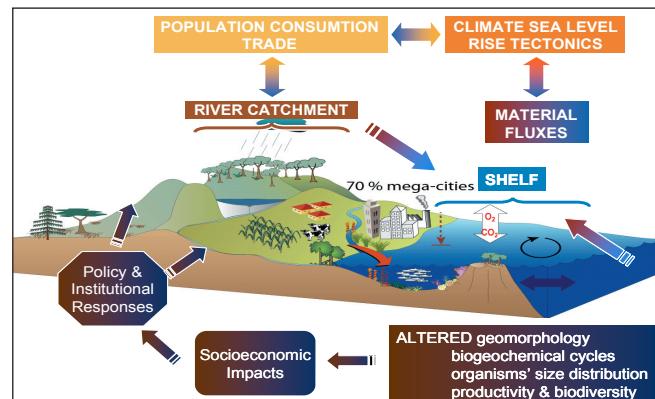
The meeting was opened by the current Chair of the Scientific Steering Committee of LOICZ, Liana Talaue-McManus and Executive Officer, Hartwig Kremer, who reflected on where LOICZ had come from over its first 10 years of activity and the future research directions, implementation approaches anticipated and its support structures (Figure 1, Table 2). The presentation by Liana Talaue-McManus outlined and reflected upon the major areas of achievements made by LOICZ to-date focussing on: The nutrient budget and sediment work and their incorporation and scaling into the LOICZ typology to discern global and regional patterns. This work also included a suite of clustering and visualisation tools. She further elaborated on the use of the Driver-Pressure-State-Impact-Response framework to review management scenarios and system critical loads and thresholds, which was also incorporated into the LOICZ Basins river catchment – coast interaction assessment and synthesis activity. These first 10 years of LOICZ research have recently been synthesised and contextualised against other research in the recently published LOICZ synthesis book – “Coastal fluxes in the Anthropocene” – published by Springer as part of the IGBP Series (<http://www.springeronline.com/swg/cda/frontpage/0,11855,5-10009-72-50198016-0,00.html>).



**Figure 1.** The science questions that informed the first 10 years of LOICZ research framed by the Driver-Pressure-State-Impact-Response framework.

Looking to the future, Liana Talaue McManus outlined how the synthesis of LOICZ research had informed the continuing and new direction of LOICZ. In an Earth System context these consider the coastal zone as an integral component of the social, economic and natural systems of the globe (Figure 2) and are centred on an appreciation that:

- Humans and their institutions at multiple scales are integral components of coastal systems.
- The water continuum from river basin catchments to coastal ocean forms the fundamental unit for coastal studies & management.
- A social-ecological system approaches underpins policy and management.



**Figure 2.** The context of the coastal zone within the broader global social, economic and natural geography of the globe.

Considering the future operational structure of LOICZ, there is a need to recognise three cross-cutting thematic areas (synthesis, policy and capacity building) across three geographic scales (local to regional to global; Table 2).

	Site/ National	Regional	Global
<b>Scientific Synthesis</b>	Process studies	Site comparisons	Global trends
<b>Policy Interface</b>	Management strategies	Best practices Standards	Global impacts
<b>Capacity buildin</b>	Erasmus Mundus Tools & Training	Regional mentorships	Topical working groups
<b>Mechanism</b>	Corresponding members	Regional Project Nodes	LOICZ SSC + IPO

**Table 2.** the context of the coastal zone within the broader global social, economic and natural geography of the globe.

The following plenary addresses provided by IGBP (Bill Young) and IHDP (Barbara Göbel) placed LOICZ in the broader context of its parent programmes as well as the challenges facing the ESSP community to ensure the relevance of the programmes and their core projects with the global environmental change research agendas. Barbara reviewed the perspective of human dimensions in the context of global environmental change and the challenges these raised for IHDP research. IHDP aims to achieve comprehensive understanding of global environmental change processes and their consequences for sustainable development in order to integrate socio-environmental systems that connect global environmental changes with processes of socio-economic, political and cultural globalization. She reviewed the scientific direction and relationship between the core projects and explained the role of IHDP to make research more relevant and effective as a co-ordination interface between science, funding agencies and policy making. Her presentation set the stage for an interdisciplinary forward looking holistic discussion on coastal science and its future directions, that feature the wider coastal domain as an “edge for society,” with an appreciation of the full water continuum scale from source to sea.

Bill Young explained how IGBP studies the interactions between biological, chemical and physical processes and human systems and the relationship of these to the Earth's dynamics, characterised by critical thresholds and abrupt changes. He explained the links with human activities driving multiple, interacting effects that cascade through the Earth System in complex ways such that the Earth is currently operating in a non-analogue state. The relationship between the IGBP projects that explore present implications of GEC and the projects that consider what might be learnt was described. Bill also explained the relationship between the core programmes of the Earth System Partnership and cross-programme joint projects.

Peter Herman articulated how public awareness that coastal ecosystems are under threat from local and regional developments, pressures from inland sources and changes inflicted by global change has led to important changes in legal regulations of environmental policies. He suggested that the challenge for ecological science was how to deliver ecological quality criteria that can become one of the legal yardsticks of coastal zone management in different Global Change scenarios. Over the past decade activities such as LOICZ have considerably increased the level of interaction between natural and socio-economic sciences.

Peter Harrison explained how the world's oceans and coasts are under significant stress not only from traditional uses, but also from the growing number of new and potentially conflicting activities which have emerged in recent years. It is only gradually that a number of key jurisdictions are beginning to grapple with these complex issues. He outlined a framework for understanding this complexity that inculcates concepts of “scale” and “common property”. Peter looked towards the next steps, including the key issue of governance.

Justus van Beuskom considered scale issues with regard to coastal heterotrophy and the input of riverine organic matter. He explained how organic and inorganic particles are intimately united in suspended matter and how recent studies have highlighted the importance of the more ubiquitous permeable sands as filters and seasonal sources of suspended matter.

Stuart Bunn (Global Water Systems joint ESSP project, GWSP) explained that river systems and their associated floodplains and wetlands are regarded as the most threatened ecosystems on the planet through landscape alteration so that they are considered to be functionally extinct. Projected increases of human population are likely to lead to further degradation of riparian areas, intensification of the hydrological cycle and increase in the discharge of diffuse and point source pollutants. In turn, these catchment changes will undoubtedly place increasing pressure on the health of coastal ecosystems. Focussing on the Moreton Bay Waterways and Catchments Partnership which has unified sciences, managers and policy makers views in one common vision as a case study, he provided an overview of the experience gained through development of the partnership and highlighted some of the key factors believed to have contributed to its current success.

Finally, Stephen Olsen emphasized the importance of linking coastal science to coastal ecosystem planning and management. As change in coastal ecosystems accelerates the need for appropriate scientific understanding multiplies. The challenge is placing science inputs at the centre of decision-making, and understood in a way that can fundamentally influence human behavior. Most recent analyses suggest that the challenge is not being met, leading to the likelihood of further degradation in coastal areas and lost opportunity for effective, integrated management. Sustainability requires adaptive, ecosystem-based management that becomes progressively more effective over the long-term. He suggested that an important challenge for LOICZ was to adopt a comparative approach that examines coastal governance at a range of spatial scales and in a diversity of cultural contexts.



*Discussion during the poster & ice-breaker session on Monday evening.*

(photo: Hester Whyte)

The sessions and workshops provided much thought provoking debate as recent science and reviews were presented from across all geographic regions of the world and cutting across all science disciplines. Major outcomes from the sessions included:

- the need to integrate science outputs and outcomes within a framework of human risk and vulnerability to environmental change;
- that the importance of lagoon and delta systems within the coastal environment including the interplay between human induced activities and natural factors along the river catchment/coast continuum has to be understood in assessing the magnitude and variations of sediment and nutrient fluxes to the global coastal zone, and the implications of these discharges and changes on human uses and coastal functioning and services;

- the importance and challenges of appropriate and effective communication within and between the multiplicity of stakeholders involved directly and indirectly in the coastal zone, including how to incorporate the issue of “uncertainty”.

The meeting also considered how LOICZ should continue to benefit from the typology and modelling outputs and approaches developed during its first decade of research. Overall, the meeting concluded that LOICZ methodologies were a robust and useful approach for synthesizing information for assessing the trophic status of coastal systems, for systems as geographically and ecologically distinct as the arctic bays and Spanish rias. The need to find ways to incorporate uncertainty analysis in the methodologies was highlighted. Also identified is the importance for LOICZ models to address ecological as well as biogeochemical indicators, and that we need to be concerned about top-down ecological impacts on biogeochemical fluxes, as well as bottom-up effects. A challenge for LOICZ is to develop approaches to apply these tools for assessing coastal vulnerability and answering other questions of coastal governance.



*Egmond aan Zee lighthouse.*

(photo: Juan José Del Toro Madrueño)

The meeting provided opportunity for researchers and practitioners to forge new linkages, or renewed ties, with colleagues to pursue LOICZ related activities. Beyond the Open Science Meeting, the success of LOICZ as a platform for global change research greatly depends on the individual and collective strength of its community members and its links and exchanges within and outside the Earth System Science Partnership to see the project through to fruition.

### **APN Report on Global Change and Coastal Zone Management– wrapping up 10 years of targeted research and future ways towards informing coastal zone sustainability**

by Nick Harvey

The Asia-Pacific Network for Global Change Research (APN), at its 10<sup>th</sup> inter-governmental and Scientific Planning Group Meeting in Kobe, Japan (10-14 April, 2005), presented a Synthesis of Global Change Coastal Zone Management research funded by APN over the last 10 years. The synthesis concludes by identifying future coastal research directions for the Asia-Pacific region (for further information see <http://www.apn.gr.jp/>), which may also challenge a response from LOICZ’ scientific community there in particular through its new regional nodes.

Since 1998, the APN has provided 0.75 million \$ US in funding for 20 coastal research projects in the region. In particular, the APN goal of ‘supporting regional cooperation on global change research’ stands out as a central outcome in addition to a number of projects achieving cooperation with

other global change networks such as LOICZ (Land-Ocean Interactions in the Coastal Zone) of IGBP and IHDP. Many of the projects were successful in terms of APN goals of ‘capacity building’ and ‘scientific data exchange’, whilst highlighting the importance of strong project design, and development of linkages to longer term funding sources extending beyond the initial APN input.

The report notes that effective science-policy interaction is an important issue in the coastal zone that may need alternative strategies to be developed in the future by the 19 APN coastal countries. The short time frame of APN projects, and project design, has meant that few projects have been able to establish firm linkages with decision-makers. Consequently, the APN goal of ‘science and policy interaction’ is an important area for future coastal projects to include. Within the LOICZ community the design and implementation of new frameworks for science to provide inputs into the policy arena has a strong emphasis to match this urgent societal need.

A number of APN-funded projects stand out as successful and examples of best practice projects are recorded in the synthesis. Many of these have achieved important outputs after APN funding has been acquitted through their final project reports. For example, one of the earliest projects supported a Pacific-based workshop in Fiji (1998) from which a number of coastal projects have subsequently been developed. It was also at this workshop that the inaugural meeting of START-Oceania was held.

The report identifies key global change issues for the Asia-Pacific region, the most important of which is global warming and accelerated sea-level rise. The potential impacts from this are compounded by current issues such as the unsustainable use of coastal resources; coastal impacts from poor catchment management; population increase and urbanisation pressure; coastal resource and development pressure on non-urban coasts. Methods for tackling these issues such as ‘integrated coastal management’ have few examples of best practice. There is a need to recognize the diversity of coastal management approaches in the Asia-Pacific region and to develop appropriate national and local policies. This needs to be accompanied by appropriate education putting less reliance on English-based material and western concepts.

The report concludes by focusing on research needs for coastal management in the future. It identifies 10 areas for future APN funded research:

- 1) A continued focus on coastal issues relating to global change and its regional implications, particularly coastal ecosystem health and human impacts on the coastal zone
- 2) To encourage more effective ways to achieve APN’s goals such as joint research projects, strengthening research networks, field and laboratory work, publications, etc;
- 3) To expand the opportunities for participation by young scientists and students;
- 4) To give more attention to enhance linkages between research and policy development;
- 5) To have better follow-up of funded projects and encouraging the publication of academic papers;
- 6) To find opportunities to collaborate with other donors and governments, which ensure long-term sustainable projects, scientific capacity building, and strengthening linkage between research and policy development;

- 7) To develop strategies for reducing the undesirable impacts of future global change;
- 8) To require more effective outputs associated with empowering decision-makers;
- 9) To develop measures and strategies for reducing the impacts of hazards;
- 10) To produce appropriate materials to inform and empower decisions about particular coasts in the Asia-Pacific region.

## MEETING REPORT

### **Coastal Zone Management Summer school by IOW Warnemuende – a mutually beneficial experience of intercultural learning in a complex field**

by Maike Paul, LOICZ IPO

This year the IOW in Warnemuende (Germany) organised a summer school on “Coastal and Marine Management – Baltic Sea and North Sea” ([www.eucc-d.de/summerschool2005](http://www.eucc-d.de/summerschool2005)). For two weeks (5.9.-17.9.2005) 20 students, PhD's and graduates from Europe (Spain, Portugal, Italy, The Netherlands, Germany, Denmark, Sweden, Estonia, Poland) and South and Central America (Brazil, Mexico, Peru, Saint Lucia) lived, learned and laughed together and I was one of them.

One part of the summer school was focussed on an e-learning system on ICZM topics ([www.ikzm-d.de/CMM](http://www.ikzm-d.de/CMM)). Together with colleagues from different backgrounds and culture we developed learning modules. Despite the learning effect through looking up information for the module on the internet, it was also interesting to see different approaches on the same topic and to explore ways to combine those for an improved product.

Getting to know each other and building up an intercultural network was one of the aims of this summer school. Therefore a variety of social events, some including lecturers, took place such as a dragon boat race and a Salsa course.

However, it was not all about partying. In lectures and workshops the scientific background, legal frameworks, case studies and management tools of ICZM were presented and discussed. Hans Burchard (Baltic Sea Research Institute) for example provided a model on the water exchange in the Baltic Sea and the hot topic of stakeholder involvement in a decision making process was elaborated in form of a role play led by Jacobus Hofstede (Schleswig-Holstein State Government of Kiel). This approach clearly highlighted the complexity ICZM practitioners and scientists face in striving for truly participatory processes.

At the end of these two weeks, participants generally felt one step further forward in their knowledge about coastal management, and that the foundation for an important personal network had been laid. It will serve future information exchange, and even future collaboration between participants is envisioned.

Personally, the understanding of relationships between different issues along the coast was one of the greatest benefits of this summer school. Having a broad background

on ICZM enables me to link LOICZ outcomes to management issues. Providing information to managers would increase the value of LOICZ research through improving decision making along the coast and hence lead the way towards sustainable management.

## IPO NOTES



### **GKSS, Institute for Coastal Research – the new home for the LOICZ IPO**

At the end of its three years transition, and timely after the publishing of its new Science Plan and Implementation Strategy, LOICZ is pleased to announce that a new home for its International Project Office has been found. Taking effect 1<sup>st</sup> January 2006 it will be based at the banks of the Elbe River at the GKSS Research Centre in Geesthacht, Germany ([www.gkss.de](http://www.gkss.de)), hosted by the Institute for Coastal Research.

Following a very constructive and fruitful meeting between the GKSS Directors, the Head of the Institute for Coastal Research, the LOICZ SSC Chair and IPO in August a Memorandum of Understanding has been signed between the parties and the International Geosphere-Biosphere Programme (ICSU) in September. It sets out the establishment of the LOICZ International Project Office for an initial period of 5 years, envisioning a second 5 year period subsequent to successful mid-term evaluation.

The agreement also marks the termination of some 13 years of generous support by the Dutch government that allowed LOICZ to operate from a very supportive and inspiring working environment, the Royal Netherlands Institute for Sea Research on Texel.

Since LOICZ is a fully operational project with a growing variety of ongoing research and synthesis activities we are grateful for the solid perspective and the hospitality we encountered at the GKSS. The new IPO will allow the global LOICZ community to keep its momentum and embark on the future research challenges identified during the recently held Inaugural Open Science Meeting (Egmond aan Zee 27-29 June 2005).

We are also looking forward to working closely with our new colleagues at the Institute for Coastal Research and the first newsletter of 2006 will be a special issue featuring some examples of the coastal research that is being carried out at GKSS. We will also shed more light on the actual move to Germany. We are looking forward to the challenges that lie ahead for the IPO in its new working surroundings as well as to the new science LOICZ aims to address as it enters a new phase.



### Maike Paul supports the LOICZ IPO

With LOICZ going into its second phase many changes come along. One of the aims is to improve the project database, supporting the LOICZ community with detailed information on projects run within LOICZ. In order to get this database up and running in a modern way online, I started an internship with the LOICZ IPO on Texel in August 2005. Besides giving the database a new shape, I am also collecting information and updates on projects and handle new applications.

I am a landscape gardener by education and graduated in March at the University of Applied Sciences in Osnabrueck, Germany. During my studies I focused as much as possible on the coast. I set up a management plan for brackish water habitats in the Wadden Sea and did research on sediment erosion in mangrove swamps in Australia. In the future I would like to stay involved with coastal research and LOICZ seems to be a good start for this.

### SSC UPDATES



**Jozef M. Pacyna**

Jozef is a Director of the Center for Ecological Economics at the Norwegian Institute for Air Research in Kjeller, Norway and Professor of Chemistry at the Gdansk University of Technology, Gdansk, Poland. He received a M.Sc. Degree in

Chemical Engineering, Ph.D. Degree in Environmental Engineering, and Doctor Habilitus Degree in Chemistry all from the Technical University of Wroclaw, Poland. Jozef has been awarded post-doctoral fellowships in Norway (1981-1983), and the United Kingdom (1982), as well as Visiting Professorships at the University of Michigan (1992-1993) and the Chalmers University of Technology in Gothenburg, Sweden (1991-1995). He has been an Adjunct Professor at the University of Michigan (1993-2000).

Jozef's scientific interests are in studying changes of coastal zones caused by various anthropogenic drivers. In the period from 2002 through 2005 he has coordinated an EU program on the European Land Ocean Interactions in the Coastal Zone (ELOISE). The main goal of the program was to synthesize the information on changes of structure and functioning of the coastal zone in Europe due to changes of anthropogenic drivers and climate change. Four information modules were developed within ELOISE for policy makers and students on nutrient dynamics in the European water systems, habitat dynamics at the coast- catchment interface, land-ocean interactions and climate change, and contaminants in the coastal regions.

Jozef was also a member of Steering Committees of various international programs, including the IGBP LOICZ (the last 6 years) and the IOC Coastal Panel of the Global Ocean Observing System (GOOS). He contributed to the preparation of the strategic design plan for the coastal component of the global observing system.

Jozef's expertise is on biogeochemical cycling and fluxes of nutrients, heavy metals, persistent organic pollutants, and radionuclides in the environment, particularly in the coastal areas, and source-receptor relationships of various chemicals in the coastal zone. He has coordinated a project on the sea-air exchange of trace gases in the coastal areas within the EU CARBO-EUROPE project. Currently Jozef is a partner in another EU project CARBOCEAN on behavior of carbon in the marine ecosystem. Another field of his expertise is related to the implementation of environmental strategies defined within international agreements on emission and flux reductions, including cost-benefit analysis of this implementation. He has been involved in assessing current and future inputs of various contaminants to the Baltic Sea within HELCOM, and the North Sea within OSPARCOM. He has been working for several years at the Chemical Coordinating Centre of the European Monitoring and Evaluation Programme (EMEP) within the UN ECE Long range Transboundary Transport of Air Pollution (LRTAP) Convention.

Jozef is the author of more than 400 scientific publications, including more than 100 papers in peer-reviewed journals and more than 30 books and book chapters. He has acted as Guest Editor in the Estuarine, Coastal and Shelf Science journal. At present he is a European Editor of the Journal of Air and Waste Management Association.

Jozef teaches a course on Global Change for Ph.D. students at the Gdansk University of Technology. He was also a Lecturer at the EU European Joint Master in Water and Coastal Management 2004/2005 in Faro, Portugal and at the Jozef Stefan International Postgraduate School in Ljubljana, Slovenia. Since 2000 he has been a member of the Global Change Committee of the Norwegian Research Council and a

chairman of the Steering Committee of the Polish Thematic Network for Problems of Air Pollution and Climate Change AIRCLIM-NET.



**Dennis Swaney**

Dennis Swaney has been a researcher in Cornell University's Department of Ecology and Evolutionary Biology for the past 5 years. He dates his involvement with LOICZ to his previous post in the Department of Systems Ecology, University of Stockholm. There he was introduced to the LOICZ Biogeochemical Budget project by Frederik Wulff (former SSC member), and became involved in developing nutrient budgets for coastal systems, as well as analyzing global patterns obtained from the budget dataset with many LOICZ colleagues, including Steve Smith, Bob Buddemeier and Chris Crossland. A mathematical modeler of biogeochemical and ecological processes, Dennis has published in areas ranging from agricultural crop growth simulation, to the effects of bioturbation on chemical profiles in aquatic sediments, to methods for estimating net ecosystem productivity in estuaries. With colleagues at the Boyce Thompson Institute, Dennis has developed models to help explain the temporal and spatial patterns of nitrogen dynamics in forested watersheds. Recently, with colleagues at Cornell, he has focused on modeling nutrient fluxes in large watersheds (thousands of km<sup>2</sup>) and on the coupling of terrestrial nutrient fluxes to estuarine systems. He is taking an active role in developing the North American Nitrogen Center, headed by Bob Howarth at Cornell, which as part of the International Nitrogen Initiative, promotes collaborative research and educational activities related to effects of nitrogen loading on the environment. He also continues to collaborate with colleagues in Sweden on watershed-scale biogeochemistry. Dennis is married to Karin Limburg, a fisheries ecologist, who is also well-known in ecological-economics circles. To the extent possible, they collaborate in research on their favorite ecosystem, the Hudson River, and its watershed.

## Farewell to Prof. Dr. Hendrik (Henk) Postma (26 July 1921 – 19 July 2005)



With deep sorrow, the Land-Ocean Interaction in the Coastal Zone (LOICZ) Project of the International Geosphere-Biosphere Project and the International Human Dimensions Project on Global Environmental Change, bid a final goodbye to Prof. Henk Postma, one of our founding fathers.

As part of the LOICZ Planning Committee (1991-1992) Henk Postma played a leading role in designing this global research project. Further, he facilitated the solicitation of the generous support of the Royal Dutch Government for this scientific endeavour, and promoted the establishment of the LOICZ home base at the Royal NIOZ on Texel.

Henk Postma was a member of the first LOICZ Scientific Steering Committee (1993-1995). He always stayed closely connected with LOICZ and many of us will remember the inspiring discussions we had the honour to share with him even at the beginning of our second decade of global change science after 2002. LOICZ is honoured to carry Henk's legacy into its current phase.

On behalf of the global LOICZ community, we wish Henk's wife and family strength in this time of memory and mourning, and share their great loss.

Liana Talaue Mc Manus (Current Chair, SSC, Rosenstiel School, Miami)

Han Lindeboom (Past Chair, SSC, Alterra, Texel)

On behalf of all past and present SSC and IPO members and the whole global LOICZ community

## PUBLICATIONS

*Keep an eye on the LOICZ website for news on new LOICZ R&S reports that will soon be available as hard copy and electronic download.*

The LOICZ Synthesis book, **Coastal Fluxes in the Anthropocene** as part of the IGBP series, has now been published by Springer. For details visit [www.loicz.org](http://www.loicz.org) or <http://www.springeronline.com/sgw/cda/frontpage/0,11855,5-10009-72-50198016-0,00.html>

IGBP Report 51/IHDP Report 18: **LOICZ Science Plan and Implementation Strategy**, available through [www.loicz.org](http://www.loicz.org)

**Patterns of publication effort in coastal biogeochemistry: a bibliometric survey (1971 to 2003).** Eds. Jean-Pierre Gattuso, Nelly A. Dawson, Carlos M. Duarte and Jack J. Middelburg. 2005, Marine Ecology Progress Series Vol. 294: 9-22.  
e-mail: [gattuso@obs-vlfr.fr](mailto:gattuso@obs-vlfr.fr), [www.int-res.com](http://www.int-res.com)

LOICZ South Asia Node publishes first newsletter- **South Asia Coasts**. Available at [www.nsf.ac.lk](http://www.nsf.ac.lk)

## HAVE YOU SEEN

**ERASMUS MUNDUS : "QUATERNARY AND PRE-HISTORY"** is open for the Academic year 2006 - 2007.  
<http://www.unife.it/progetti/erasmusmundus>

## MEETINGS & WORKSHOPS

For a complete list of future meetings and regular updates visit our web-site at [www.loicz.org](http://www.loicz.org)

**10-14 October 2005, Lisbon, Portugal:** TOPS 2005: The Ocean Policy Summit: International Conference on Integrated Ocean Policy: National and Regional Experiences, Prospects, and Emerging Practices. [www.globaloceans.org](http://www.globaloceans.org)

**31 October-3 November 2005, Townsville, Queensland, Australia:** Peace on the Oceans (Pacem in Maribus) 31<sup>st</sup> International Conference. Building Bridges towards Integrated Oceans Governance: Linking Ocean Science, Engineering, Technology and Policy. Conference chairs: Prof. Russell Reichelt ([Russell.reichelt@crcreef.com](mailto:Russell.reichelt@crcreef.com)) and Mr Danny Brophy ([imareans@bigpond.com](mailto:imareans@bigpond.com)). [www.conferenceplanners.com.au](http://www.conferenceplanners.com.au)

**14-18 November 2005, Moscow, Russia:** Joint XVI International Conference on Marine Geology and VIII International Workshop on the LOIRA Project. [www.ocean.ru](http://www.ocean.ru)

**4-7 January 2006, Cairo, Egypt:** Environmental Change in lakes, Lagoons & Wetlands of the Southern Mediterranean Region (ECOLLAW): 1<sup>st</sup> International Conference.  
[www.geog.ucl.ac.uk/melmarina/ecollaw2006/](http://www.geog.ucl.ac.uk/melmarina/ecollaw2006/)  
or e-mail: [info.ecollaw2006@geog.ucl.ac.uk](mailto:info.ecollaw2006@geog.ucl.ac.uk)

**21-26 January 2006, Boulder, Colorado, USA:** 1<sup>st</sup> iLEAPS (Integrated Land Ecosystem – Atmosphere Processes Study) Science Conference. [www.atm.helsinki.fi/ILEAPS/boulder](http://www.atm.helsinki.fi/ILEAPS/boulder)

**8 - 10 May 2006, Skiathos, Greece:** AFM 2006 Sixth International Conference on Advances in Fluid Mechanics. [www.wessex.ac.uk/conferences/2006/afm2006/2.html](http://www.wessex.ac.uk/conferences/2006/afm2006/2.html)

**21-24 May 2006, Baton Rouge, Louisiana, USA:** International conference on challenges in coastal hydrology and water quality. [www.aihydro.org/conference2006/](http://www.aihydro.org/conference2006/)

**7 - 9 June 2006, Rhodes, Greece:** DEBRIS FLOW 2006 - First International Conference on Monitoring, Simulation, Prevention

and Remediation of Dense and Debris Flows.

[kbanham@wessex.ac.uk](mailto:kbanham@wessex.ac.uk)

[www.wessex.ac.uk/conferences/2006/debris2006/2.html](http://www.wessex.ac.uk/conferences/2006/debris2006/2.html)

**14-19 August 2006, Exmouth and Ningaloo Reef, Western Australia:** International Field Meeting on Sub-aerially exposed continental shelves since the Middle Pleistocene climatic transition. Contact A/Prof. Lindsay Collins (E-mail: [l.collins@curtin.edu.au](mailto:l.collins@curtin.edu.au))

**17 August- 1 September 2006, Fukuoka, Japan:** 17<sup>th</sup> International Sedimentological Congress (ISC). <http://www.isc2006.com>, 2<sup>nd</sup> Circular: <http://www.isc2006.com/pdf/2ndC.pdf>

**7-8 November 2006, Beijing, China:** 2<sup>nd</sup> International Young Scientists' Global Change Conference. Send in your expression of interest before 15 November 2005 to the conference organizers: [ysc@agu.org](mailto:ysc@agu.org)

**9-12 November 2006, Beijing, China:** Earth System Science partnership's Open Science Conference, *Global Environmental Change: Regional Challenges*.  
<http://www.essp.org/essp/ESSP2006/>

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