

# LOICZ NEWSLETTER

## NEW EXECUTIVE OFFICER FOR LOICZ ON LINE

The new Executive Officer of LOICZ, Chris Crossland, has come to the Netherlands from Townsville, Australia, where he was the inaugural Director of the CRC Reef Research Centre. The Centre, established in 1993, is a successful enterprise of the Australian government's Cooperative Research Centres Program, bringing together researchers and industry users of scientific information to collaborate in further developing key economic sectors. Centres operate as networks of research-industry teams solving problems and delivering science outputs to meet strategic goals - a model with some similarity to LOICZ.

Born and educated in New Zealand with BSc and MSc (Hons) from Auckland University, Chris completed a PhD in plant physiology at James Cook University, North Queensland. His research career on marine issues focussed on coral productivity and calcification, extending to wider ecosystem and resource issues in tropical and subtropical coastal environments. He was a foundation research scientist with the Australian Institute of Marine Science (1974), then moved to CSIRO Division of Fisheries (1979-1989), working in research and with management agencies in Australia, the Middle East, South East Asia and the Caribbean.

This is the seventh newsletter of the Land Ocean Interactions in the Coastal Zone (LOICZ) International Project of the IGBP. It is produced quarterly to provide news and information regarding LOICZ

Demands in the late 1980's by environmental managers and resources planners for scientific information at regional coastal scales led to the establishment in 1989 of a Project Office within the CSIRO Institute of Natural Resources and Environment. Through this, Chris utilised Australian interdisciplinary scientific capabilities to address major coastal zone issues for national, state and international governments and agencies. and designed marine projects for tasks within and outside Australia. Chris's team involved in one of these projects, the Port Phillip Bay Study, received the 1996 CSIRO Chairman's Award and Chris was awarded the 1997 Australian Science Communicators Award. Because coastal zone authorities now recognise that people and their activities rather than the natural environment need to be managed, there is now the added

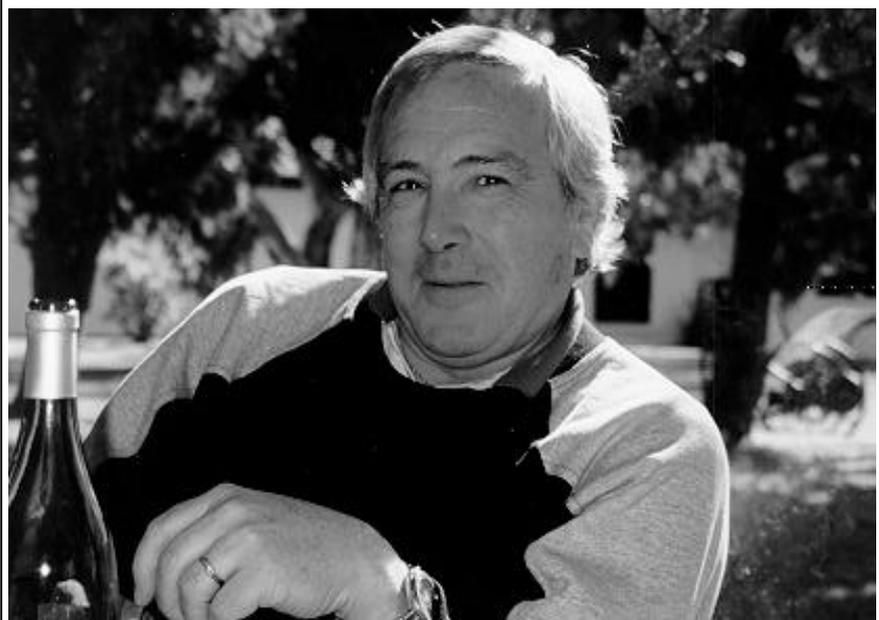


Photo: Chris Crossland during the Eighth LOICZ Scientific Steering Committee meeting in Adelaide, Australia.

dimension of socio-economic issues within coastal zone research. Chris has built these capabilities into the issues-driven research on the Great Barrier Reef for the CRC Reef Research Centre. He has also served on a large number of Australian state and national and international committees dealing with coastal management issues.

Now resident on Texel, he is accompanied by wife Jan and two daughters Angela and Suzanne. They are all looking forward to learning new languages and customs and exploring Europe whenever possible.

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## Deputy EXECUTIVE OFFICER FOR LOICZ



Hartwig Kremer, the new Deputy Executive Officer, comes to LOICZ from Bremen, Germany, where he was program manager of Environmental Protection of Coastal Waters and Food Security, a program funded by the Federal Ministry for Economic Cooperation and Development and the State of Bremen. The program concentrates on human and institutional capacity-building in coastal and marine research and management. Hartwig

developed a comprehensive set of curricula for marine scientists and coastal managers with a special focus on decision-makers. He conducted workshops in South East Asia, the Caribbean and Germany, including the international symposium "Socio-Economic Benefits of Integrated Coastal Zone Management" December 1996, which had a strong LOICZ participation and addressed the global dimension of coastal processes under the view of ecology and economic pressures.

Hartwig was born in Herne, Germany and studied Biology at the Universities of Marburg and Kiel. At the Institute for Marine Science in Kiel he specialised in biological and physical oceanography with a major focus on fisheries, ecology and toxicology. His MSc (1987) and PhD (1994) work took him to a number of research institutions in Germany, Denmark, the Netherlands and the U.K. Sea time also gave him experience in the practical aspects of fisheries, marine pathology and, in teamwork with those people commercially involved in this field.

Hartwig's PhD thesis addressed the question of heavy metal loads and toxicology of bony tissues of top-predators, in response to the disastrous seal epizootic disease in the Wadden Sea in 1988/89. At the time, he was a civil servant in the Chamber of Agriculture and related ministries of the German Federal Government and the State Government of Schleswig-Holstein. He has experience in the transfer of scientific knowledge into policy and management practice, and the economic and social aspects of fisheries, aquaculture and environmental quality.

Hartwig will be joining LOICZ in July, when he will move with wife and young daughter to Texel.

## THOUGHTS ON STANDING DOWN FROM THE SSC

Ed Gomez

This year is my last of the maximum six normally allowed an individual to be a member of the Scientific Steering Committee. I am one of the early members and over the years witnessed the evolution of the committee. At the start, the members came from various sectors, largely unknown to each other and not sure how the whole project would move forward, or even if it would move forward. Hence, there was greater disparity of interests or agendas. The early meetings were often punctuated by verbal standoffs often reflecting strong personality differences as much as scientific viewpoints.

As the years passed, the SSC members began to appreciate better their role and function in the project. From predominantly giving scientific advice about how the LOICZ should develop, it became apparent that for the project to move faster, it was now necessary for more and more of the members to be actually involved in the project's research agenda.

At the last SSC meeting in Adelaide, the previously atmosphere of earlier meetings was replaced by the salubrious austral air. The committee has turned into a cohesive, collegial, and even congenial group that worked harmoniously as never before. Such were the rites of passage that LOICZ went through, and the future looks very promising for the IGBP and coastal global science!

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Ed Gomez, from the Philippines, is outgoing Chair of the SSC, and has just completed a 6-year term of the Scientific Planning and Steering Committees of LOICZ.

### Integrating Natural and Social Sciences in the Coastal Zone - the SARCS/WOTRO/LOICZ Approach

Jahara Yahaya

The ultimate goal of the SARCS/WOTRO/LOICZ Project in South-East Asia is to formulate methods for the integration of natural and social sciences in the coastal zone. Subsequently, it is recognised that a common conceptual framework is needed to serve as a basis for the linkage, and for eventual integration of biogeochemical models with ecological and economic models. A consensus was reached during the last SARCS/WOTRO/LOICZ Workshop held in Bolinao, Philippines, 24-28 November 1997, that the economic-environmental input/output (I/O) model will be used as the common conceptual framework for all the core sites.

The framework combines the processes of two interacting subsystems: economic and environmental (Figure 1). The economic subsystem refers to all the economic activities under consideration, while the environmental subsystem comprises the biogeochemical processes. The two subsystems interact through a) the impacts of the economic activities on the environmental subsystem, for example, the emission of residuals such as BOD by urban population, and b) the extraction of resources, such as fish catches, from the environmental subsystem.

Figure 2 details the conceptual economic-environmental linkages. The economic subsystem is expressed in terms of an economic input-output model relating final demand to production. The final demand is influenced by macroeconomic factors such as economic growth, demographic change, policy intervention and

household consumption. The impact of each economic sector is the residual (Carbon-Nitrogen-Phosphorus) output which inputs to the CNP budget modelling. This relationship provides the basis for the linkage of the economic and environmental models. The CNP budgets are connected to ecological process models to determine the ecological impacts.

The feedback or "return loop" from the ecological impacts to the economic activities has not been firmly established. However, the SARCS/WOTRO/LOICZ researchers opted to proceed in testing the linkages between regional I/O model outputs and the biogeochemical models at their study sites. The methodologies for construction of appropriate I/O Table and for integrating the residuals generated into the I/O Table were outlined.

The output of this exercise will be

discussed at the next SARCS/WOTRO/LOICZ Workshop in November 1998. The detailed methodologies for constructing the economic-environmental I/O model can be obtained from the Report of the Coastal Zone Science in South-East Asia, Bolinao Marine Laboratory, Marine Science, University of Philippines, 24-28 November 1997, LOICZ Meeting Report No. 28.

It is recognised that the approach adopted by the SARCS/WOTRO/LOICZ sites would not be a fully integrated model, but should be seen as the first step towards a fuller integration of the natural and social sciences in the coastal zone.

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Jahara Yahaya, from Malaysia, is a member of the SSC with particular interest in socio-economics. She is a driving force of the SARCS/WOTRO/LOICZ core project.

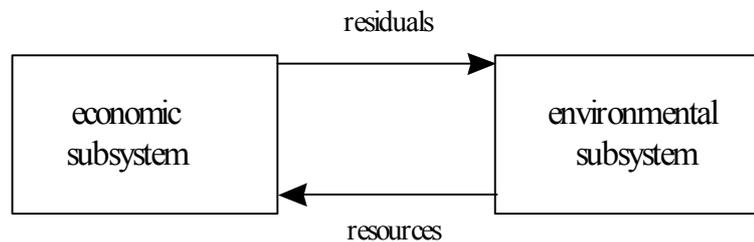


Figure 1. Conceptual integrated model for the coastal zone

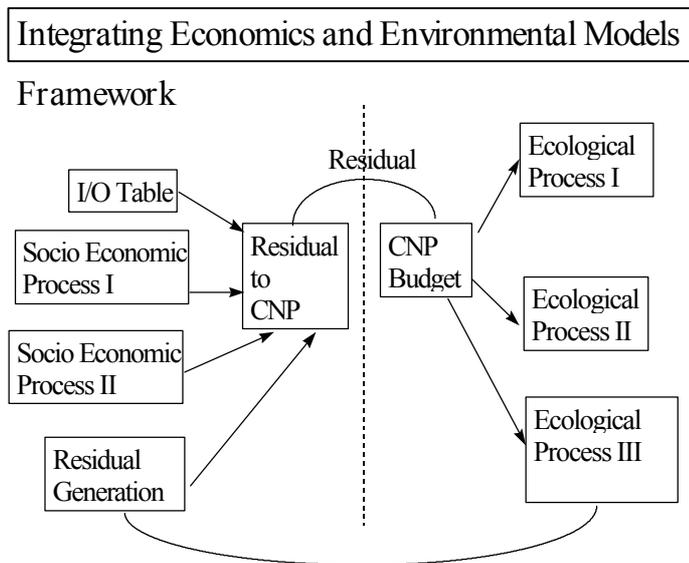


Figure 2. Additional detail for conceptual economic/environmental linkages.

## FROM THE CHAIR

Han Lindeboom

With the start of Chris Crossland and Hartwig Kremer we have a fully operational Project Office again and are ready for a very good LOICZ future. And we certainly have to be because a lot is expected from us.

At the 13th SC-IGBP meeting in Boulder, USA, the future of IGBP as a whole was discussed and it was decided that a synthesis of all IGBP Programme results will be prepared while for now most information for this synthesis will come from the older programme elements like GCTE, JGOFS, BAHC, IGAC and PAGES, younger projects like LOICZ will actively participate.

Key question include: What is the role of the coastal zone in global carbon and nutrient budgets? Is the coastal zone a source or sink of CO<sup>2</sup>? How does global change affect the coastal zone?

Also, more inter-programme initiatives will be encouraged. LOICZ will take a leading role in a continental aquatic systems project, for which Wim Salomons is organising a workshop.

At the beginning of the next century IGBP is planning to organise a 'Millennium Conference' in the form of an open science meeting of all programme elements, to which the results of the first synthesis should be presented.

## ANNOUNCEMENTS

## WORKSHOP

A workshop on biogeochemical modelling for the Gulf of Mexico, Yucatan Peninsula, and Central America region will take place in Merida, Yucatan on January 12-16, 1999 (CINVESTAV). We are looking for researchers that have data on hydrology and water chemistry of coastal lagoons in this area. A selection of participants will be made in order to have a maximum of 20 participants and assure full

participation. Please send CV (electronic copies are helpful) and full mailing address to Silvia Ibarra

Obando, CICESE, Ecology Department. US mailing address: P.O. Box 434844, San Diego CA, 92143-4844, USA.

E-mail: [ibarra@cicese.mx](mailto:ibarra@cicese.mx). A response will be provided by 1st October 1998.

## LOICZ Calendar

- Second Annual Scientific ELOISE Conference 30th September - 3rd October 1998, Huelva, Spain.
- Australasian Estuaries workshop, October 1998, Australia.
- START/IOC/LOICZ workshop: Climate changes and coastal processes in West-Africa. November 1998 (planned) Cotonou, Republic of Benin.
- Biogeochemical modelling workshop, 12th-16th January 1999, Merida, Mexico.
- IGBP Congress and SSC9 meeting, Japan, May 1999.
- LOICZ 4th Open Science Meeting, October-November 1999, Bahía Blanca, Argentina.
- Millennium Conference, October (2000 or 2001), Washington, USA.

## OTHER MEETINGS

- LUCC Data Gathering and Compilation Workshop. 11th-13th November 1998, Barcelona, Spain.
- Coastal Zone 99 Conference, 24th-30th July 1999 San Diego, USA.

## IPO STAFF

CHRIS CROSSLAND  
Executive Officer  
HARTWIG KREMER  
Deputy Executive Officer  
CYNTHIA PATTIRUHU,  
Office Administrator  
MARTIJN VAN DER ZIJP,  
Data Analyst  
JUDITH VAN BLEIJSWIJK,  
Project Assistant  
MILDRED JOURDAN,  
Secretary

FOR MORE INFORMATION,  
PLEASE CONTACT:

LOICZ INTERNATIONAL PROJECT  
OFFICE  
NETHERLANDS INSTITUTE FOR SEA  
RESEARCH  
PO Box 59  
1790 AB DEN BURG - TEXEL  
THE NETHERLANDS

PHONE: 31-222 369404  
FAX: 31-222 369430  
E-MAIL: [LOICZ@NIOZ.NL](mailto:LOICZ@NIOZ.NL)  
WWW HOME PAGE:  
[HTTP://WWW.NIOZ.NL/LOICZ/](http://WWW.NIOZ.NL/LOICZ/)

## New LOICZ Publications

## MEETING REPORTS\*

Report on the JGOFS/LOICZ Workshop on non-conservative fluxes in the continental margins. The Netherlands, 6-9 October 1997. Meeting Report No. 25.

Report on the 8th Scientific Steering Committee Meeting. Australia, 29th April - 2nd May 1998. Meeting Report No. 30.

\* Meeting Reports are available on request