



Land-Ocean Interactions in the Coastal Zone



LOICZ

Structure – Objectives – Activities

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Outline



- Structures
- Objectives
- Activities

In brief: What is LOICZ?

What? Core Project of the

- International Geosphere-Biosphere Programme
- International Human Dimensions Programme on Global Environmental Change

GLOBAL
I G B P
CHANGE



Who?

- Several Thousand Researchers (Affiliated Projects)
- Scientific Steering Committee (18 members)
- Regional Nodes (Sri Lanka, Singapore, China)
- International Project Office (Germany)



How is LOICZ integrated?



The **Earth System Science Partnership (ESSP)** is a joint initiative of 4 Global Environmental Change Programmes

Global Environmental Change Programmes

- International Programme of Biodiversity Science (DIVERSITAS)
- World Climate Research Programme (WCRP)
- International Geosphere-Biosphere Programme (IGBP)
- International Human Dimensions Programme on Global Environmental Change (IHDP)



Core Projects of the four GEC Programmes

e.g., LOICZ, GLP, SOLAS, AIMES, PAGES, IMBER, UGEC, ECOSERVICES, GEWEX, CLIVAR, GECHS, among others



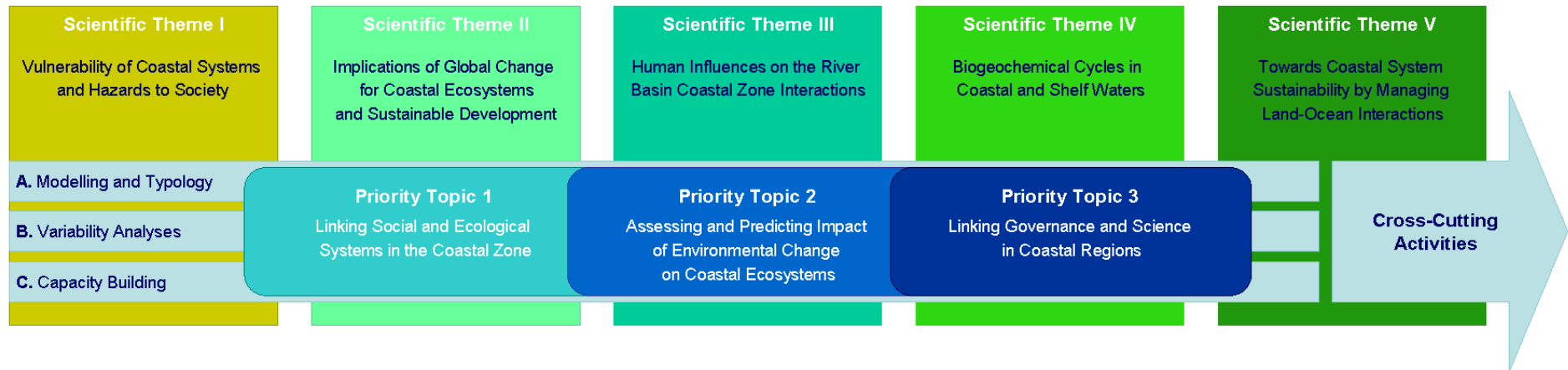
LOICZ – A Joint Core Project of IGBP and IHDP

ESSP Activities

- Joint Projects (Carbon, Food, Water, Health)
- Integrated Regional Studies (MAIRS)
- Regional Activities and Capacity Building (START)



How is LOICZ structured?



Scientific Themes

- I. Vulnerability of Coastal Systems and Hazards to Society
- II. Implications of Global Change for Coastal Ecosystems and Sustainable Development
- III. Human Influences on River Basin-Coastal Zone Interactions
- IV. Biogeochemical Cycles in Coastal and Shelf Waters
- V. Towards Coastal System Sustainability by Managing Land-Ocean Interactions

Priority Topics

1. Linking Social and Ecological Systems in the Coastal Zone
2. Assessing and Predicting Impact of Environmental Change on Coastal Ecosystems
3. Linking Governance and Science in Coastal Regions

Cross-Cutting Activities

- A. Scaling and Modeling
- B. Variability Analyses
- C. Capacity Building

What is Priority Topic 1?

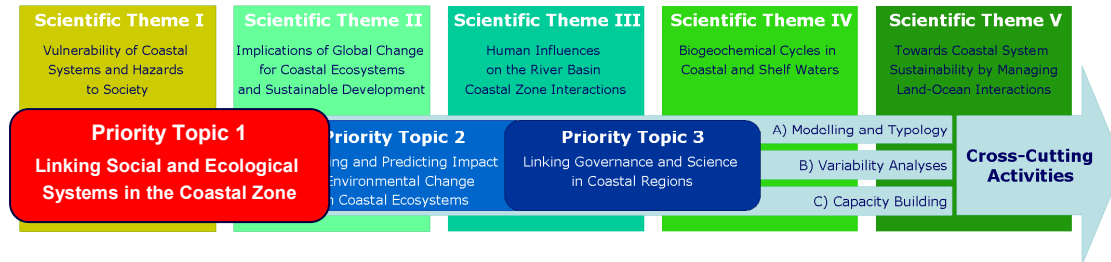
Linking Social and Ecological Systems in the Coastal Zone

Objective: *“to gain insights on the likely future state of the marine environment in various economic and social scenarios”*

Topic Leader: L. Mee,
(SAMS, Dunstaffnage Marine Laboratory)



What are activities in PT1?



(see <http://www.elme-eu.org>)

- LOICZ-affiliated EU project “ELME: European Lifestyles and Marine Ecosystems” provide valuable approaches to social-ecological system assessment and modelling, including scenarios of likely futures for European regional seas
- Session series on “Assessment of socio ecological systems”, leading to a concept paper
- EC FP7 project KnowSeas (Knowledge-based Sustainable Management for Europe’s Seas) prepared with multiple LOICZ partners

What is Priority Topic 2?

Assessing and Predicting Impacts of Environmental Change on Coastal Ecosystems

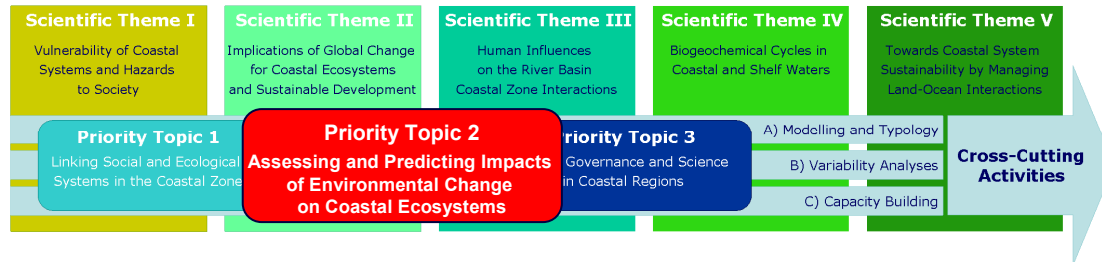
Objective: *“to examine the changes in runoff, groundwater flows, nutrient and sediment loads associated with climate change and human activities in coastal watersheds and the response of coastal and shelf ecosystems to these changes”*

Leader: Dennis Swaney

(Dept. of Ecology & Evolutionary Biology, Cornell University)



What are activities in PT2?



- Use of the ASSETS model plus LOICZ Typology approaches and science dissemination tools in the recent US National Estuarine Eutrophication Assessment (NOAA)
- Continued work on a model evaluation and refinement in the biogeochemical fluxes context
- Launch of a SCOR/LOICZ/CAS WG 132 on the quantification of links between eutrophication and harmful algal blooms (contribution to GEOHAB)
- Contribution to UNEP/GEF project „Enhancing the use of science in International Waters projects to improve project results”



(Inauguration workshop SCOR-LOICZ-CAS WG 132, Geesthacht 07-08)

What is Priority Topic 3?

Linking Governance and Science in Coastal Regions

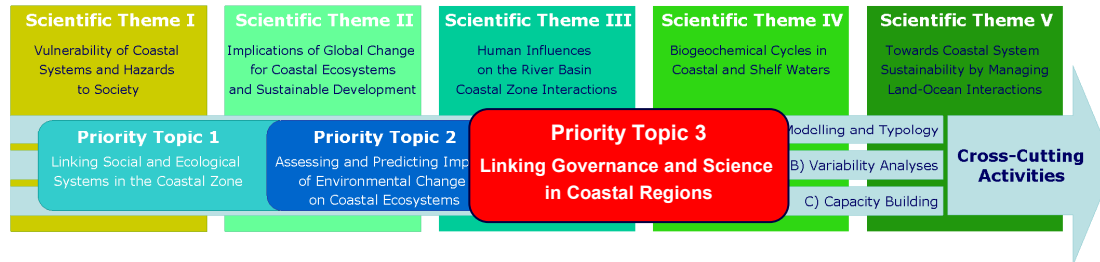
Objective: *“to employ comparative analysis to inform the improvement of the governance of human activities in changing coastal ecosystems”*

Leader: Stephen Olsen

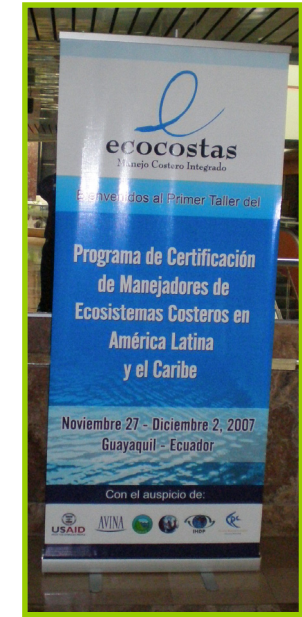
(Coastal Resources Center, University of Rhode Island)



What are activities in PT3?



(ToT Workshop, Guayaquil 11-07)



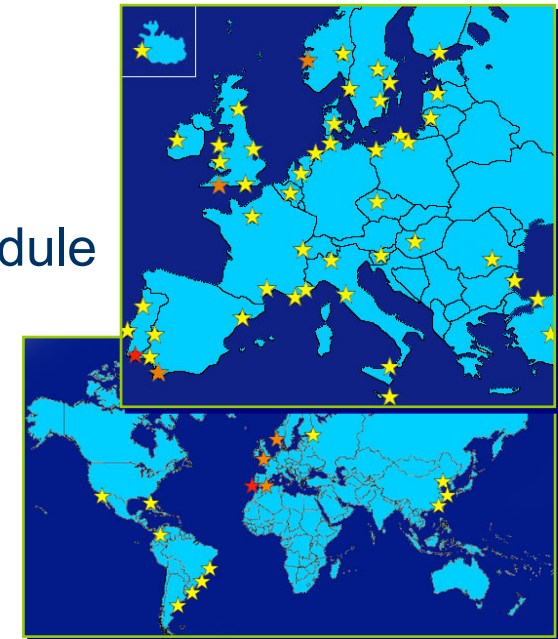
- Development of a methodology and the proof of concept in a joint science-practitioners approach, including a
 - handbook (*“The Why & the How of a Governance Baseline”*)
 - set of 11 Latin American case studies that are the basis for a regional assessment of the characteristics of past and current coastal governance
 - document that describes a certification of practitioners that draws on the baselining approach
- Two Training of Trainers workshops have been held (Ecuador, Peru) and further governance baseline workshops will take place in Norway and China



What are capacity building activities?

Erasmus Mundus Joint Master in Water and Coastal Management

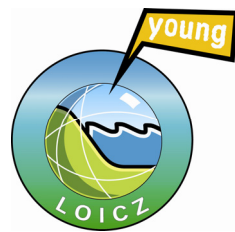
- 48 European and 15 non-European Universities
- Courses (70 Universities), external cooperation (30 Universities)
- ASIA-LINK: 3 modules incl. a field work training module (4 Universities)
- TEMPUS: Joint curriculum development with former Soviet Union (4 Universities)



(see: <http://www.ualg.pt/EUMScWCM>)

Summer Schools, Children Universities, High School Visits, Academic Lectures

- In cooperation
- Different topics
- New section “Young LOICZ”



(Summer School Sylt, July 2007)

Mit freundlicher Unterstützung von:

BACKNANG BK
Kinderuni Plus

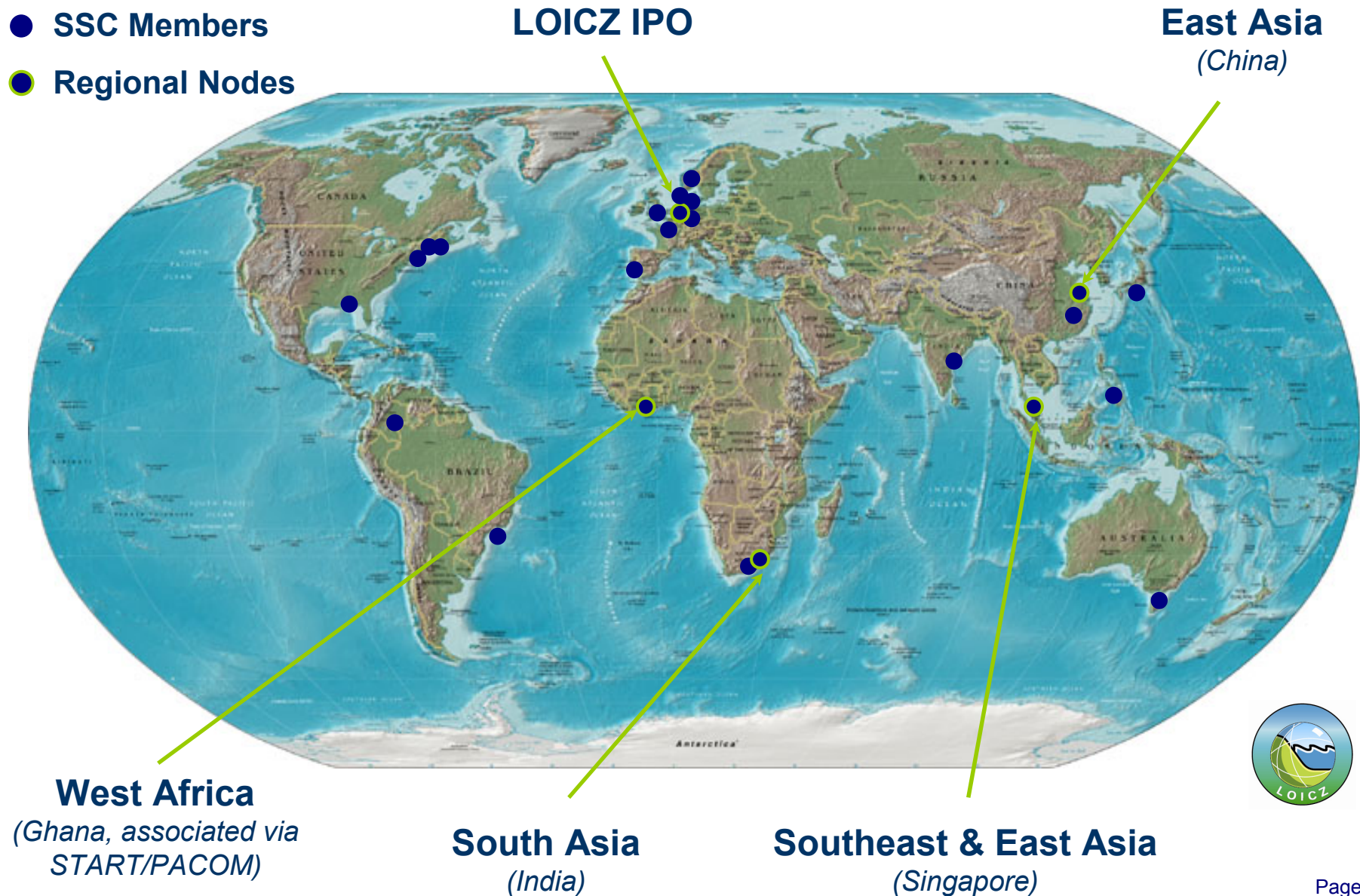
für Grundschul Kinder
vom 27. Oktober - 31. Oktober 2008
Jeweils von 10 bis 12:30 Uhr

Was uns beeinflusst

(Children University Backnang, October 2008)

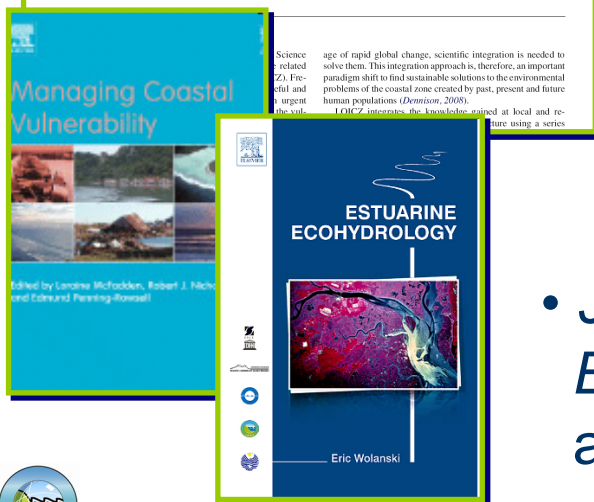
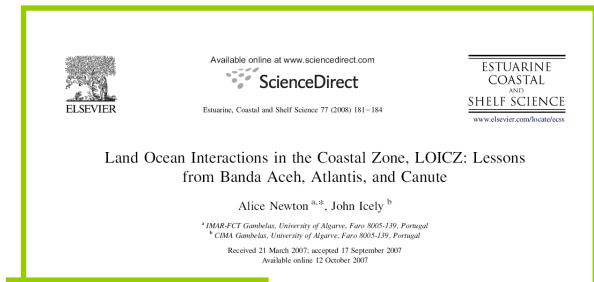
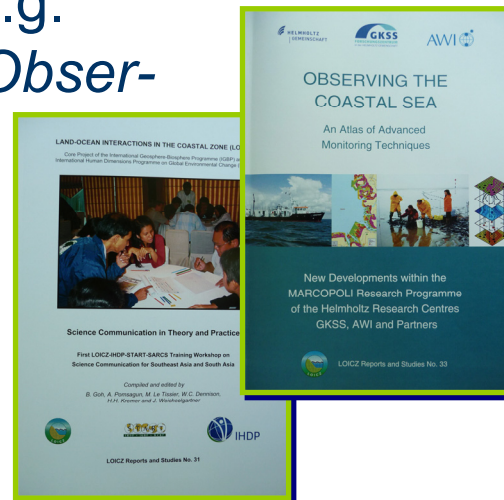
How does LOICZ network?

- SSC Members
- Regional Nodes



What are outreach activities?

- Newly designed logo, web site, newsletter, flyers
- 4 new Reports & Series (e.g. *Science Communication; Observing the Coastal Sea*)



- Software tools (e.g. DINA)

- Journal articles (e.g. special issue *Estuarine, Coastal and Shelf Science*) and books (Elsevier *Estuarine Ecohydrology*)



Contact

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