

SPICE



SPICE = Science for the
Protection of Indonesian
Coastal Marine Ecosystems,
an Indonesian-German
Research Initiative within the
Frame of Land and Ocean
Interactions

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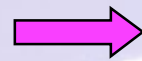
LOICZ Inaugural Open Science Meeting, 27-29 June 2005, Egmond an Zee

Objective of presentation

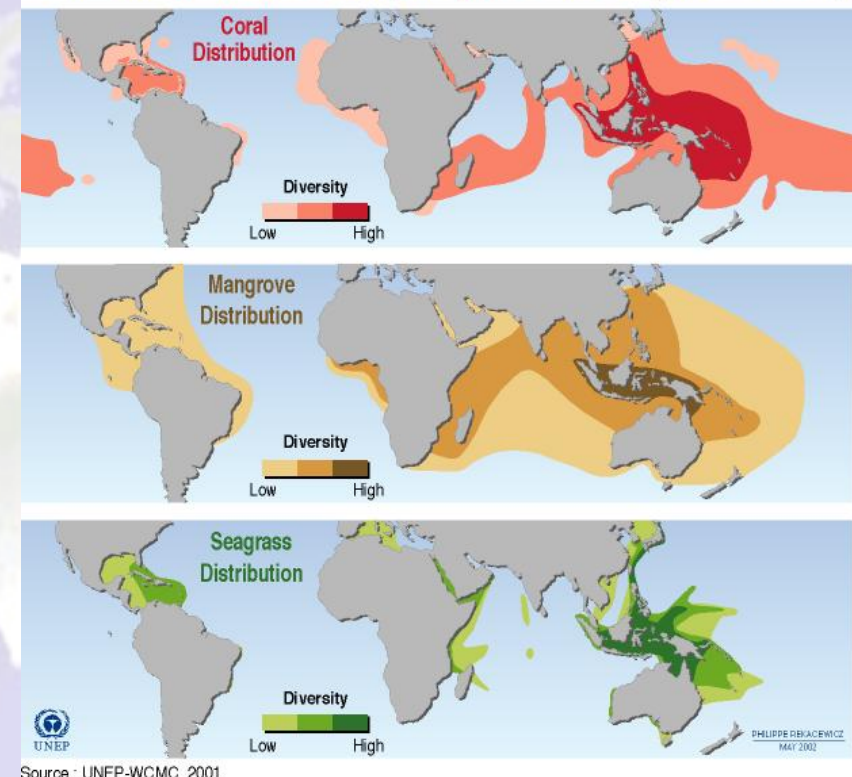
- Giving an overview on one fairly big bilateral research program on land and ocean interactions involving various aspects and disciplines
- Not going into scientific details of that program, rather
- Discussing the larger problems of implementing such an initiative and needs of adapting it to ever new requirements

Context

- Indonesia
 - » 17,500 islands, largest archipelagic country in the world
 - » 5000 km from east to west, second longest coastline in the world
 - » Significant to global ocean circulation and climate
 - » High marine biodiversity
 - » 140 million people live along its coast
 - » **Tanah air** = land & water for „*Heimat*“ or fatherland
- Problems
 - » Coastal areas severely stressed by damming, deforestation, land use change, overfishing, habitat destruction and marine pollution
- Causes
 - » Intensive economic activities
 - » High population density
 - » Poverty



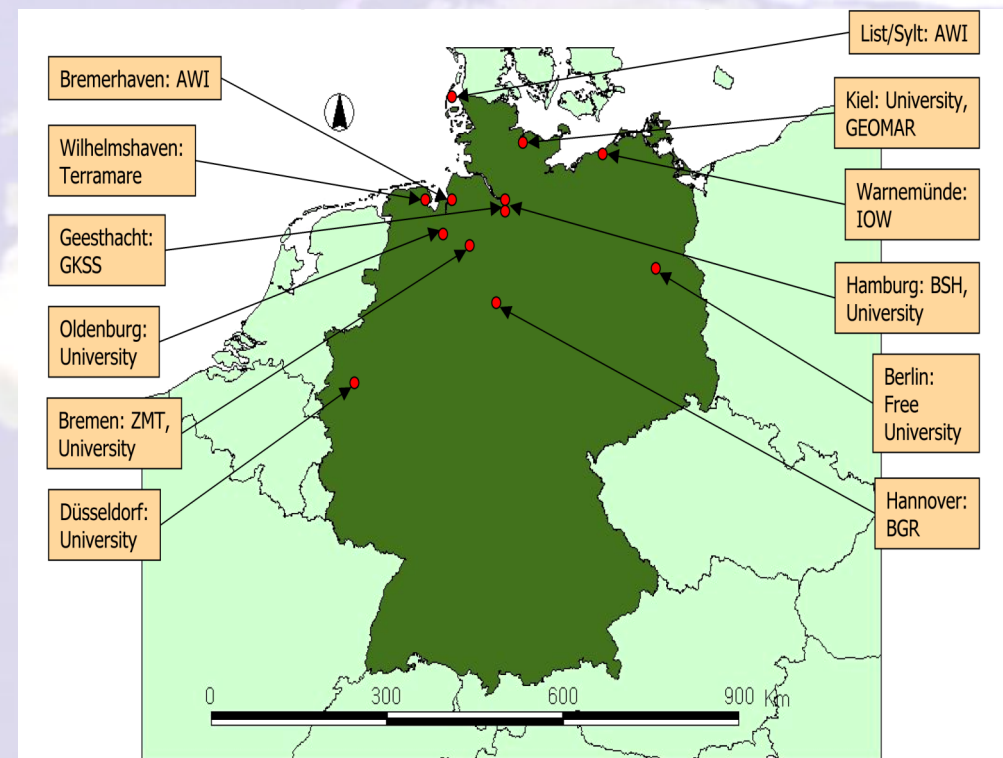
Global Distribution of Coral, Mangrove and Seagrass Diversity



Indonesia, a very important country for studying land & ocean interactions

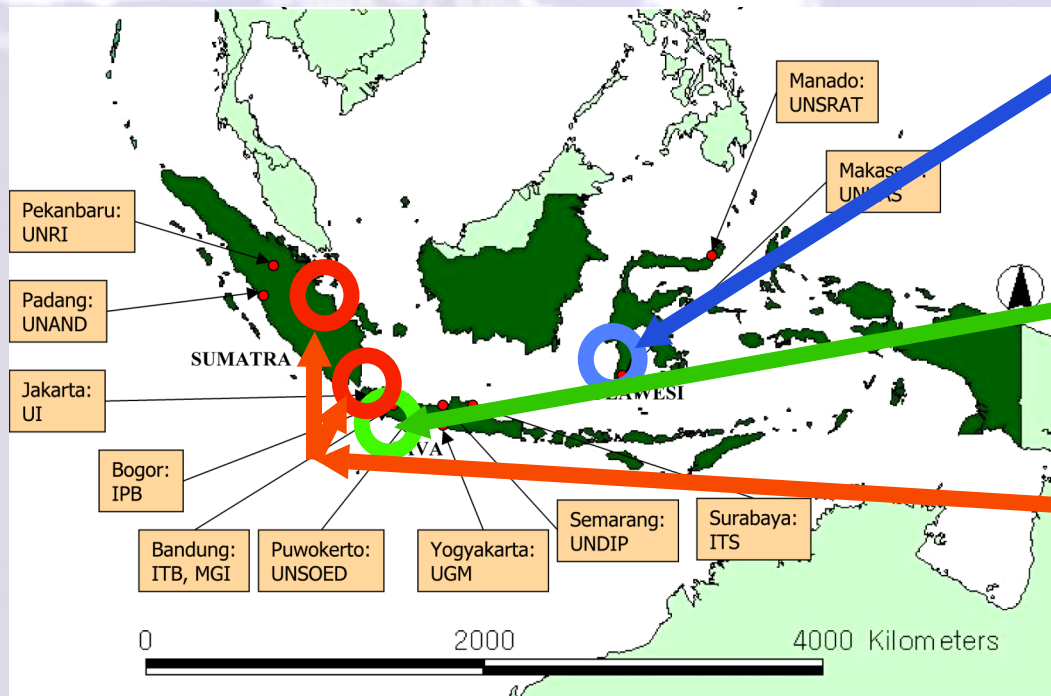
SPICE set-up

- Overarching objective
 - » To address natural, social and economic **science issues** related to the **management of Indonesian coastal systems**
- Specific objectives
 - » Strengthening **scientific data base** on coastal ecosystems
 - » **Capacity and infrastructure building** in the maritime sector
 - » Contributing to education and **public awareness**
- Program period: 7/03-6/07 (Phase I)



Research partners in Germany

SPICE Partners in Indonesia & Research Areas



- Coral reef based ecosystems and resources, Spermonde Archipelago, South Sulawesi (Cluster 1)
- Sustainable use of living resources in a mangrove based ecosystem, Segara Anakan, Java (Cluster 2)
- Coastal ecosystem health, Siak River and 1000 islands, Riau Sumatra and Java (Cluster 3)
- Marine natural products (Cluster 4)
- Marine geology and biogeochemistry, East Java and East Indonesia (Cluster 5)

- Status
 - » Cluster 1, 2 & 3 running well
 - » Cluster 4 not materialized
 - » Cluster 5 projects finalized, follow-up projects in application

Discussion of SPICE implementation

- Spice as a multi- and transdisciplinary research program
 - » A lengthy and cumbersome, but eventually successful effort in establishing
 - good cooperation between 20 different research institutions and about 50 researchers of two countries
 - Interdisciplinarity between diverse themes such as marine biology, ecology, biogeochemical fluxes, and sociology
 - » Some start is being made to establish transdisciplinarity between researchers, decision and policy makers and coastal users

Discussion of SPICE Implementation

- Adequacy and timing of the German and Indonesian funding of the research work
 - » In this cooperation each side has to bear its own research costs
 - German funding overall adequate, however, Indonesian funding below expectations
 - » Separate **funding mechanisms and procedures** often lead to severe **gaps** in agreed research work plans
 - There are limits for integration and complementarity of joint research projects
 - Thus projects need to be set up in a very flexible manner were partners must not depend too much on each other

Discussion of SPICE Implementation

- Balance between natural and social sciences
 - » Heavy **bias on natural science research**, arguments
 - First facts and findings were to be established by natural science
 - Then social science to follow (as a sort of auxiliary science) to facilitate findings into decision making process
 - » Now proposals were made for a cluster on „coastal governance and management“ (however, not to start before 2007)

Discussion of SPICE Implementation

- **The 26 Dec 2004 Tsunami**
 - » Strengthening of ecological systems also helps in mitigating impacts from extreme events (in this respect SPICE is a very worthwhile effort)
 - » Extreme events are not yet sufficiently considered and need serious attention
 - » Thus, **new proposals** were made to do research
 - in **resilience of social-ecological systems**
 - and in **linking disaster** with **coastal management and governance**

Conclusions

- SPICE has been established successfully
 - » particularly with respect to **interdisciplinarity**,
 - » **less** so in terms of **transdisciplinarity**
- **Research in coastal governance and management needs to get more room**
- **Different funding** procedures and chances between the two countries require a very **flexible program** approach
- The **tsunami catastrophe** shows the need to take up ecological **research in extreme events**
- **Further linkages to international** and **regional** land and ocean interactions **programs** needed

THANK YOU!

