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Educational, Scientific and
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Организация
Объединенных Наций по
вопросам образования
науки и культуры

• Intergovernmental
Oceanographic
Commission

• Commission
océanographique
intergouvernementale

• Comisión
Oceanográfica
Intergubernamental

• Межправительственная
океанографическая
комиссия

UNESCO-IOC Integrated Coastal Area Management (ICAM)

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IOC of UNESCO

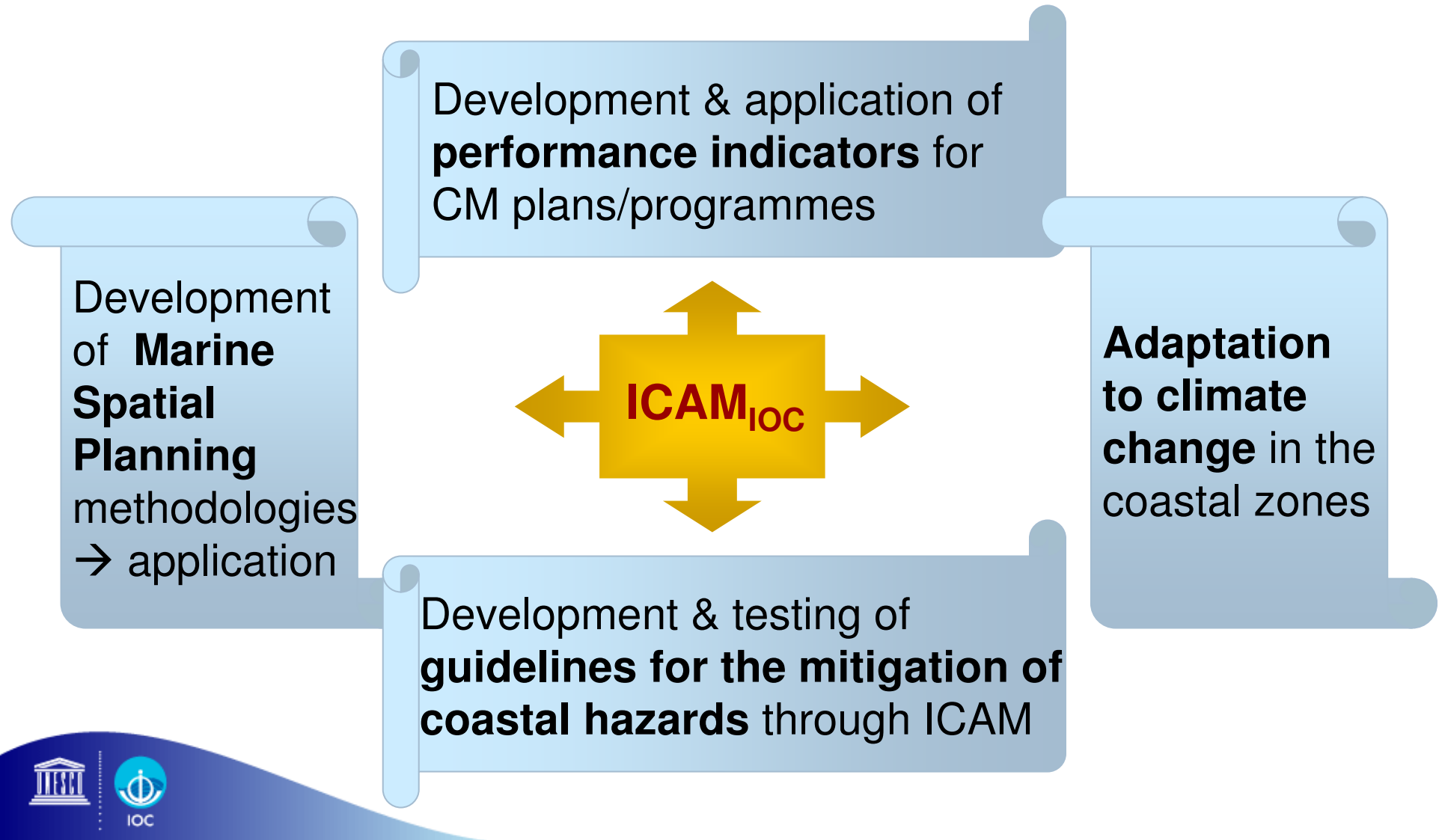
20 May 2010, JCOMM ETWS

ICAM_{IOC} Outline

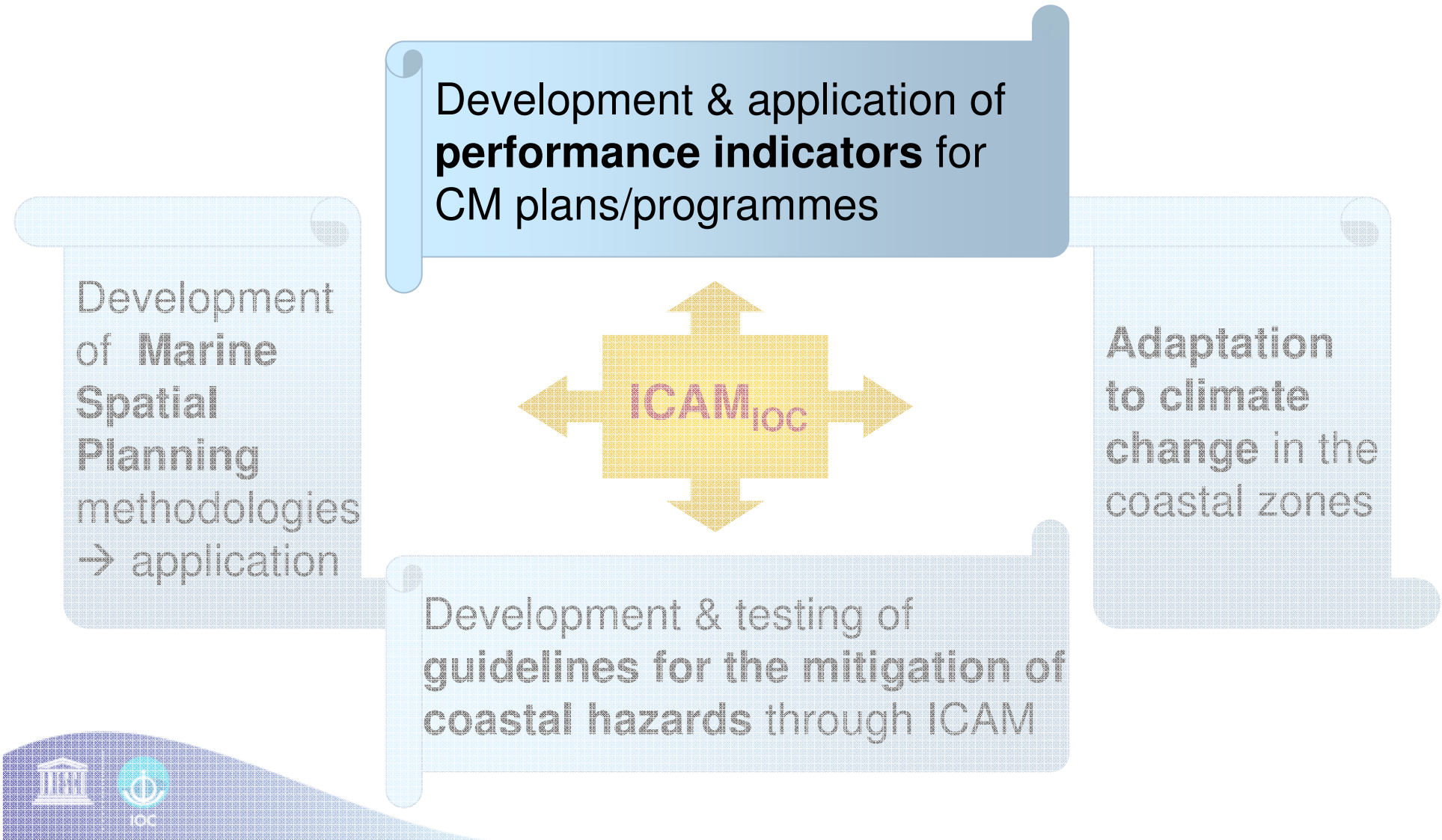
- Established in 1997 (IOC 19th Assembly)
- Objectives
 - To assist IOC Member States in their efforts to build marine scientific and technological capabilities in the field of ICAM
 - To ensure that scientific requirements are integrated into national and regional ICAM programmes and plans



ICAM_{IOC} 4 Main Lines of Activities

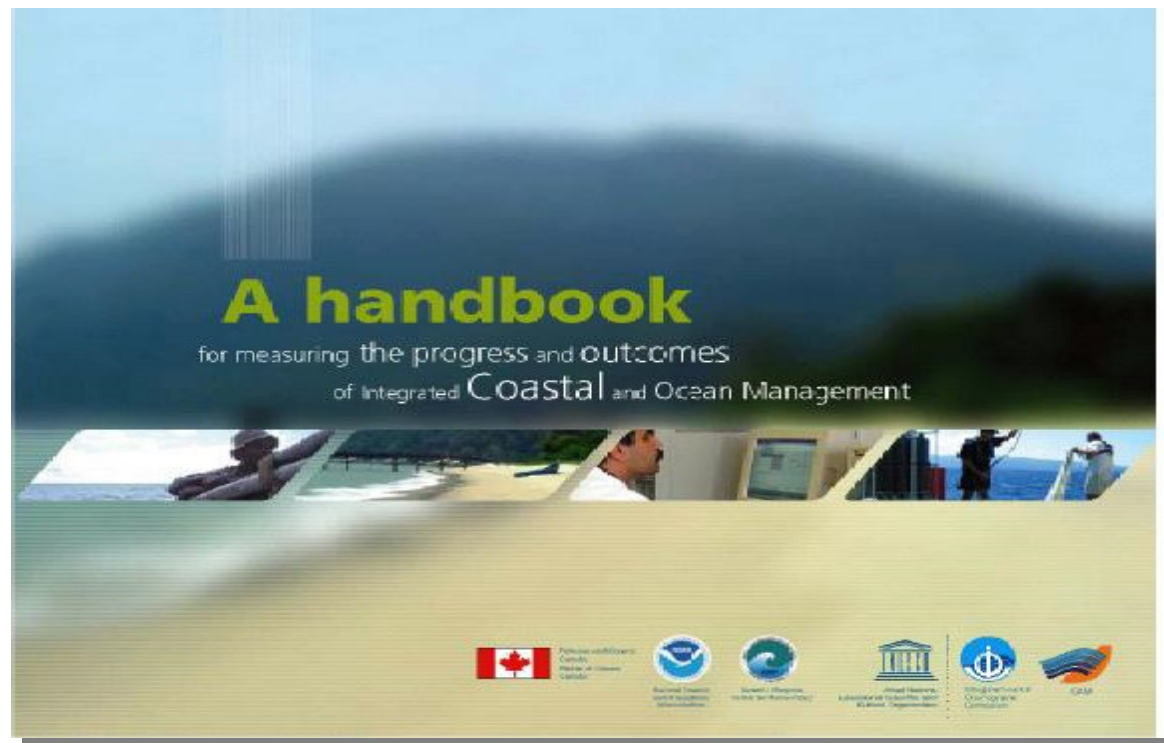


ICAM_{IOC} 4 Main Lines of Activities

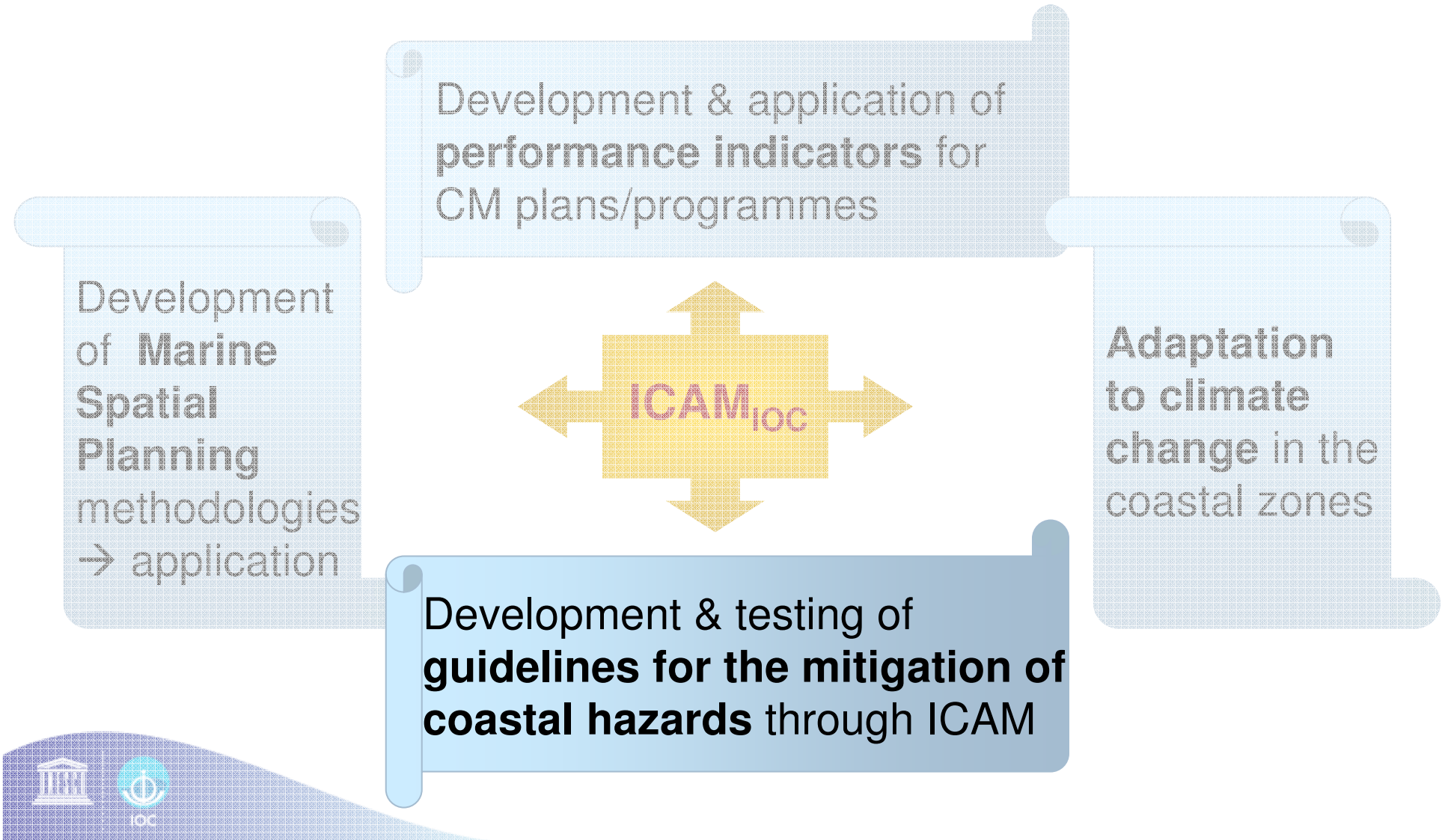


ICAM_{IOC}: Performance Indicators

- Focus on both **processes** and **outcomes**
- Considers governance, socioeconomic and ecological dimensions
- Makes use of different approaches, methods, and tools



ICAM_{IOC} 4 Main Lines of Activities



ICAM_{IOC}: Mitigation of Coastal Hazards

Experts contribution:

IOC of UNESCO, UNU-EHS, NOAA, Italian Ministry of Environment and Territory, University of Moratuwa (Sri Lanka), University of Southampton (UK), WMO, Canadian Hydrographic Service (IOS), UNEP, ISDR, GITEWS project, GFZ, University of Lisbon, U.S. Geological Survey, Russian Academy of Sciences, Ministère de l'écologie, de l'énergie, du développement durable et de l'aménagement du territoire (France),

University of Cadiz (Spain),
University of Coruña (Spain),
Joint Research Council
(European Commission),
University of Alexandria
(Egypt), Universitat Politècnica
de Catalunya (Spain),
University of Wollongong
(Australia), DLR, Bureau of
Meteorology (Australia),
Environment Agency (UK),
Ocean Research Institute and
eThekweni Municipality
(Durban-South Africa), Flood
Hazard Research Centre,
University of Middlesex (UK)



ICAM_{IOC}: Mitigation of Coastal Hazards

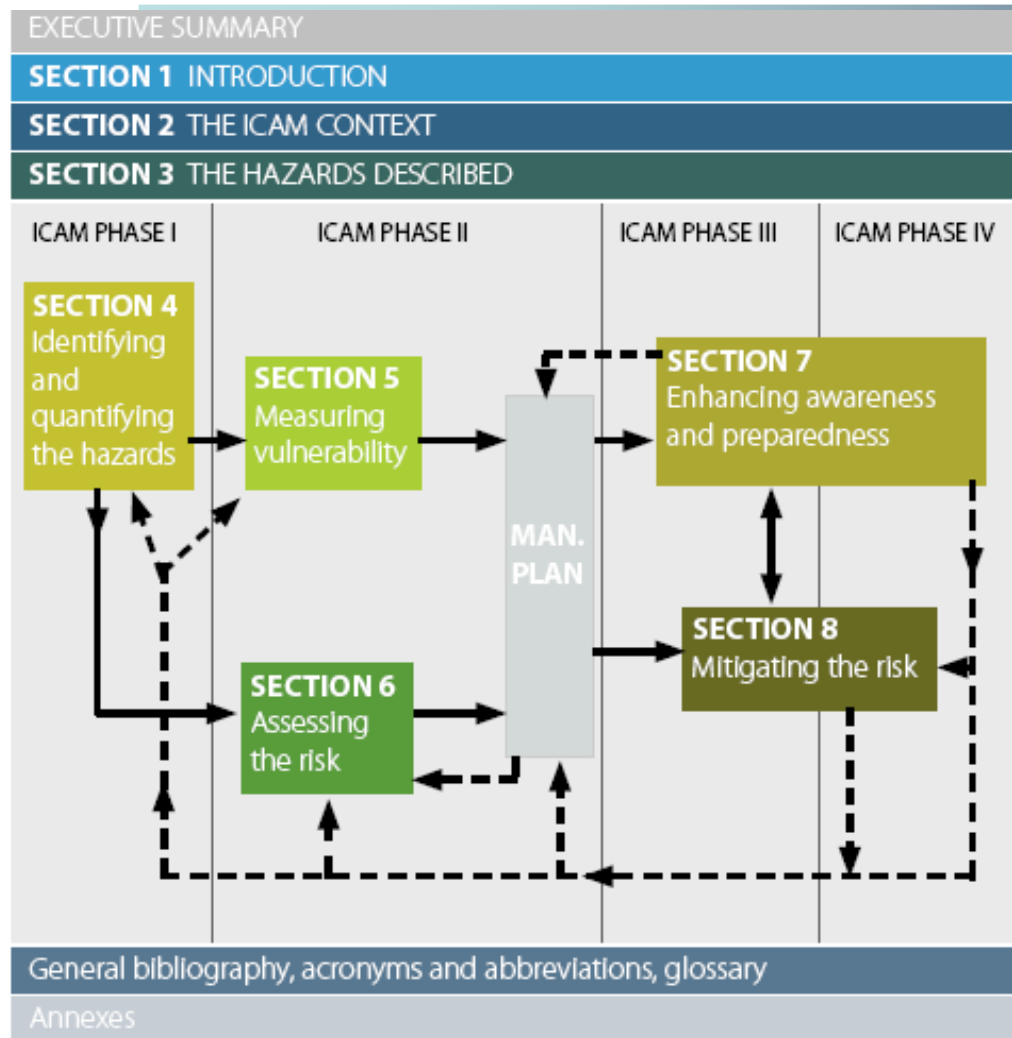
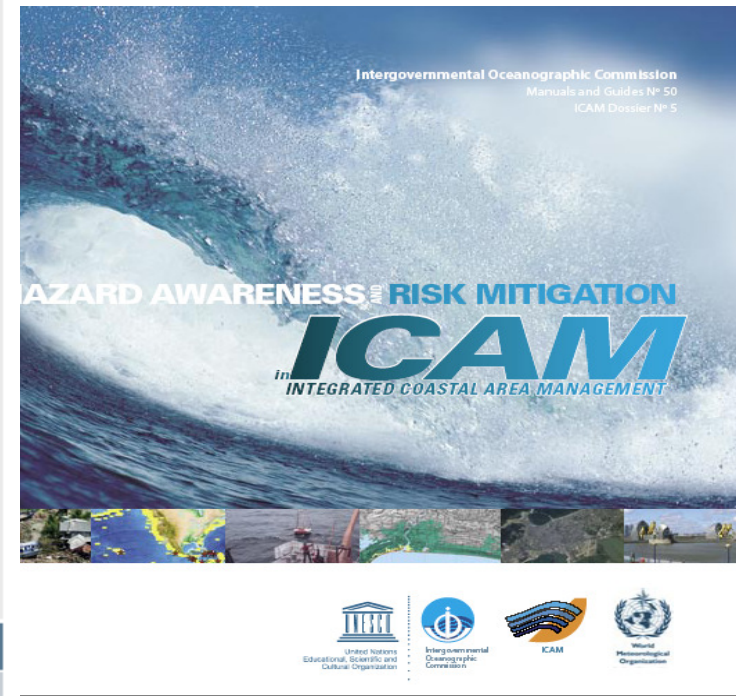


Fig. 1.2. The relationship of the Guidelines' sections to four phases of ICAM. Linkages (solid lines) and feedbacks (pecked lines) between Section topics; MAN. PLAN = Management Plan.

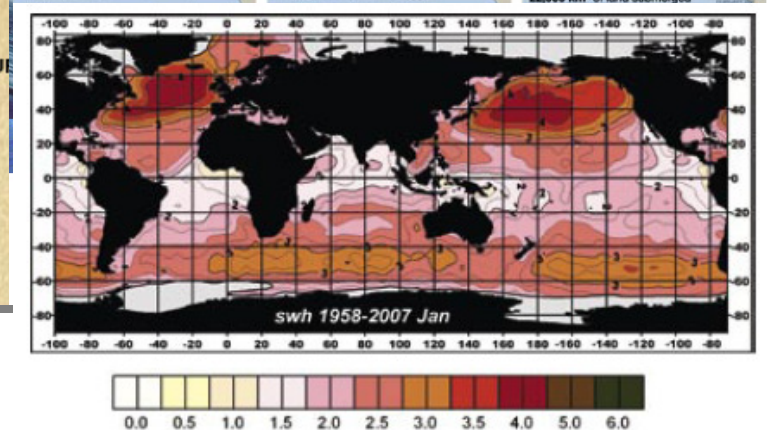
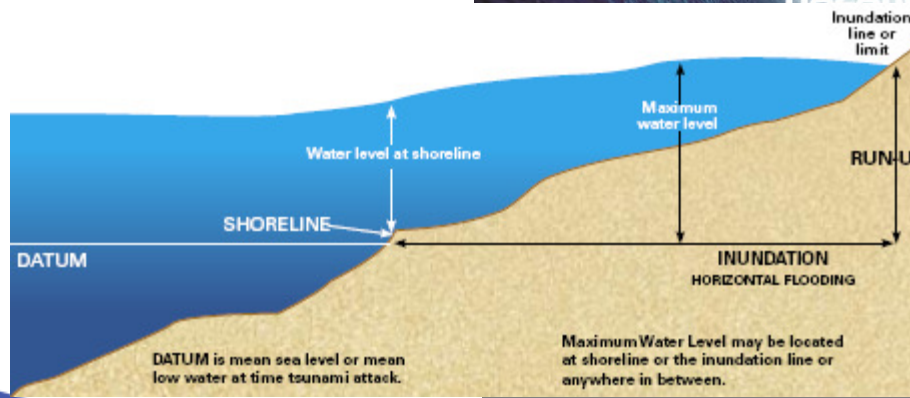
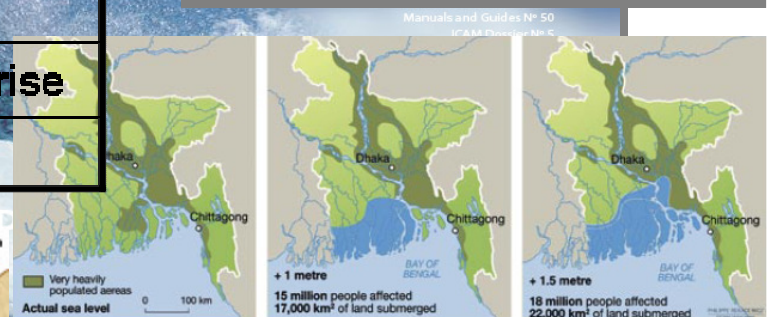
Environment and Territory, University of
 'MO, Canadian Hydrographic Service (IOS),
 U.S. Geological Survey, Russian Academy
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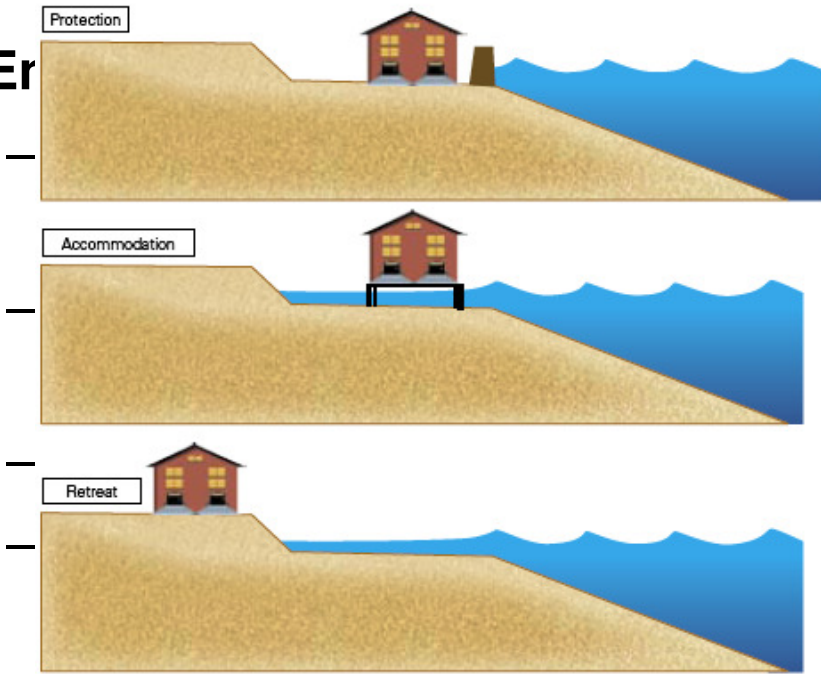
ICAM_{IOC}: Mitigation of Coastal Hazards

- Describing Hazards

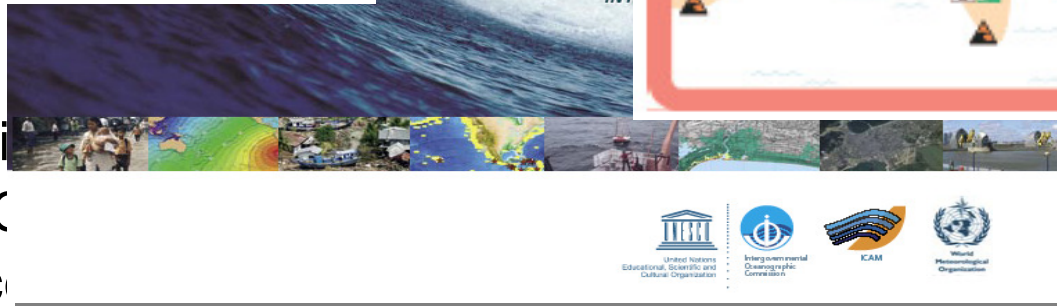
Rapid-onset hazards	Tsunami
	Storm surge
	Extreme wind-forced waves
Cumulative, progressive or “creeping” hazards	Long-term sea-level rise
	Coastal erosion



ICAM_{IOC}: Mitigation of Coastal Hazards

- **Er** **redness**
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- 
- The diagrams show a cross-section of a coastal area with a house and the ocean. The top diagram, labeled 'Protection', shows a seawall between the house and the ocean. The middle diagram, labeled 'Accommodation', shows the house elevated on stilts. The bottom diagram, labeled 'Retreat', shows the house moved inland, away from the shoreline.

- **Mitigating the Risk**
 - Procedures and i consider within IC strategy for the c



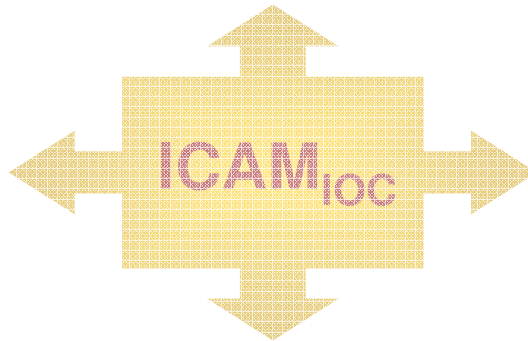
ICAM_{IOC} 4 Main Lines of Activities

Development
of **Marine
Spatial
Planning**
methodologies
→ application

Development & application of
performance indicators for
CM plans/programmes

**Adaptation
to climate
change** in the
coastal zones

Development & testing of
**guidelines for the mitigation of
coastal hazards** through ICAM



ICAM_{IOC}: Marine Spatial Planning

Public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve **ecological**, **economic**, and **social** objectives that have been specified through a political process.

Step 1: Defining context and authority

Step 2: Obtaining financial support

Step 3: Organizing the process

Step 4: Organizing stakeholders

Step 5: Analyzing existing conditions

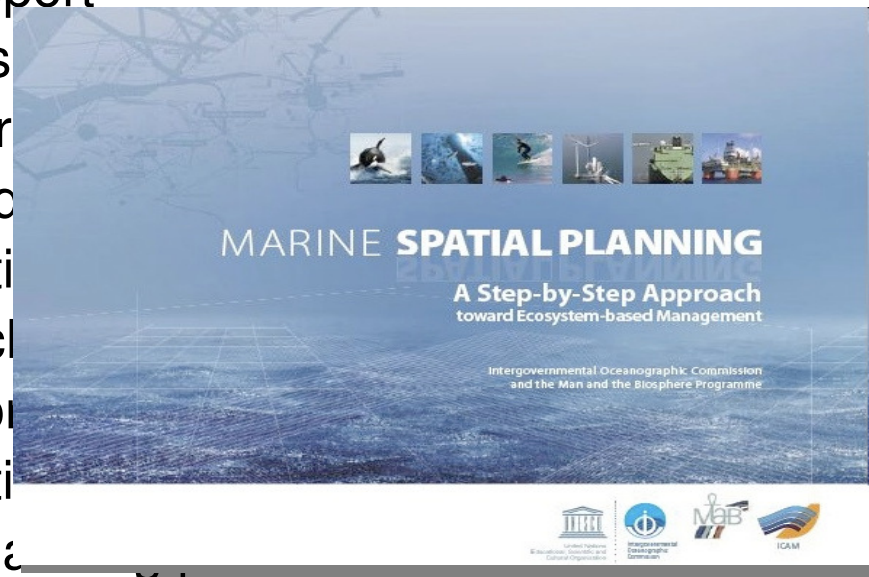
Step 6: Analyzing future conditions

Step 7: Preparing and approving a plan

Step 8: Implementing and enforcing the plan

Step 9: Monitoring and evaluating the plan

Step 10: Adapting the spatial plan



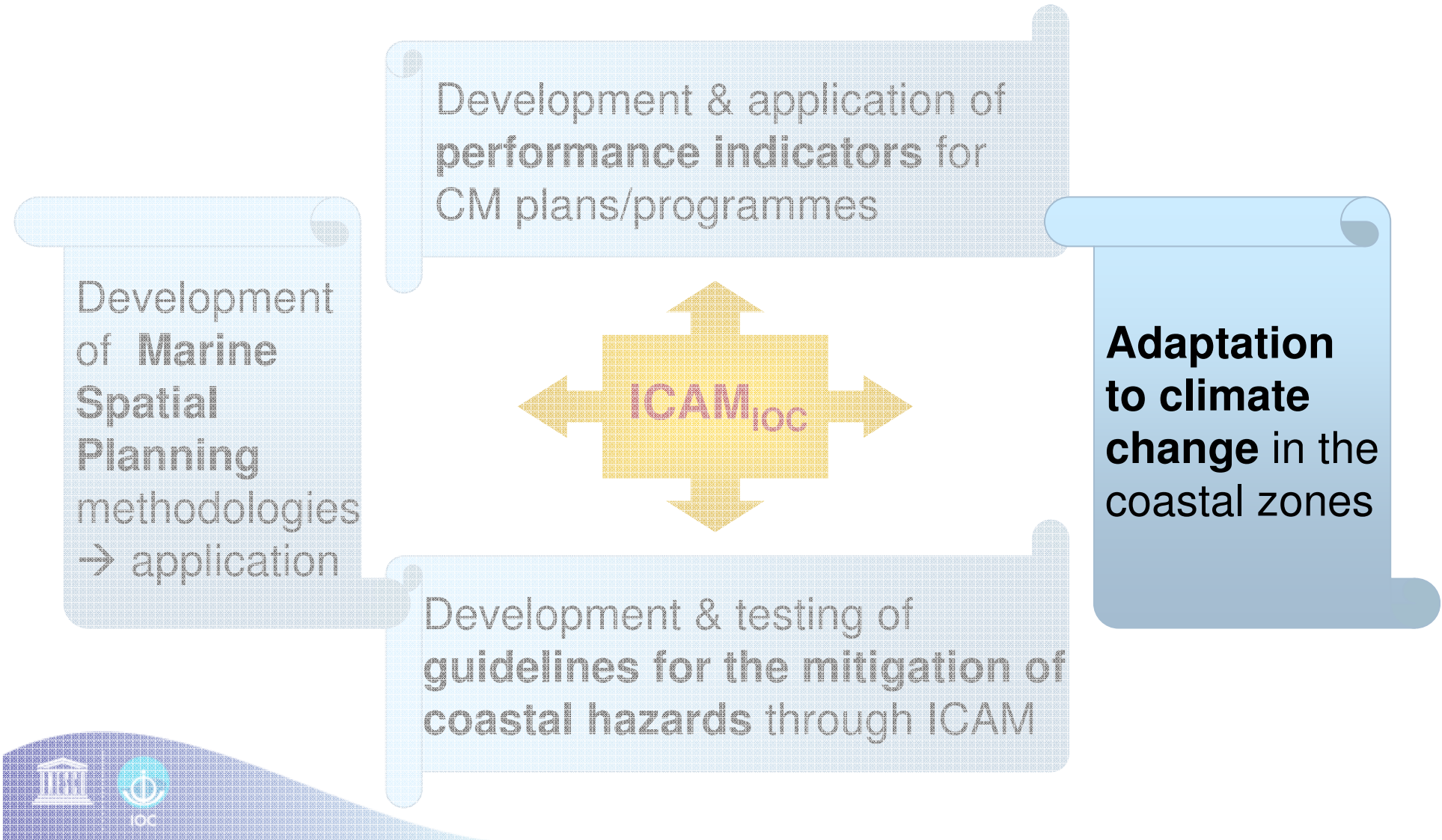
ICAM_{IOC}: Marine Spatial Planning

- Based on international examples of good practices
- Applied to national/regional/specific site planning (e.g. Ha Long Bay / Vietnam)



Step 10: Adapting the spatial planning process

ICAM_{IOC} 4 Main Lines of Activities



ICAM_{IOC}: CZ Adaptation to Climate Change



ACCC project



Other factors

Climate Change

Identified issue

Coastal Erosion

Sea level rise

**Impacts on ecosystems,
local populations
infrastructure
livelihood...**

**Build
Adaptive Capacity**

Systems response



ICAM_{IOC}: CZ Adaptation to Climate Change

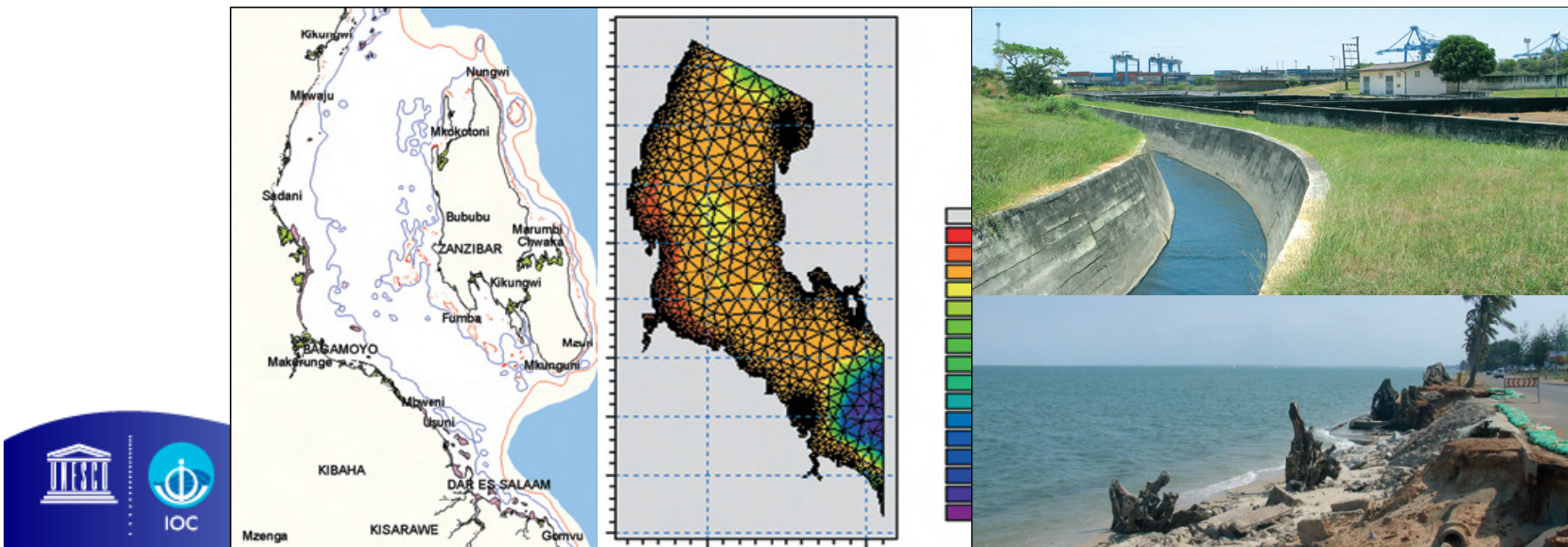


ACCC project



(Africa)

- Project on management of coastal erosion in Atlantic Coast
- Project on hydrodynamic modelling in East Africa / Western Indian Ocean and Coast



ICAM_{IOC}: Integrated Approach

SPINCAM: South-East Pacific data and Information Network in support to integrated Coastal Area Management

- IOC Partner Programmes:
ICAM, IOCARIBE, ODINCARSA, IODE
- National Partners:
Chile, Colombia, Ecuador, Panama, Peru
- Objectives:
 - To establish the **NATIONAL INDICATOR FRAMEWORK** focusing on the state of environmental and socio-economic conditions to provide, for policy, the sustainability of existing and future coastal management practices.
 - To establish **INFORMATION SYSTEMS** on the status and regional level of sustainable development coastal indicators, their spatial representation and the dissemination of ICAM resources and experiences



Questions, Comments...

Thank You

