United Nations
Educational, Scientific and
Cultural Organization

Intergovernmental
Oceanographic
Commission

Organisation
des Nations Unies
pour l'éducation
la science et la culture

Commission
océanographique
intergouvernementale

Organización
de las Naciones Unidas
para la Educación
la Ciencia y la Cultura

Comisión
Oceanográfica
Intergubernamental

Организация
Объединенных Наций по
вопросам образования
науки и культуры

Межправительственная
океанографическая
комиссия

"Implementing Rio+20: Integrated Planning for Sustainable Coastal Area Management in the Caribbean Region"
17-18 March 2014
Port of Spain, Trinidad and Tobago

Dr. Cesar TORO
UNESCO IOC
IOCARIBE

ICAM

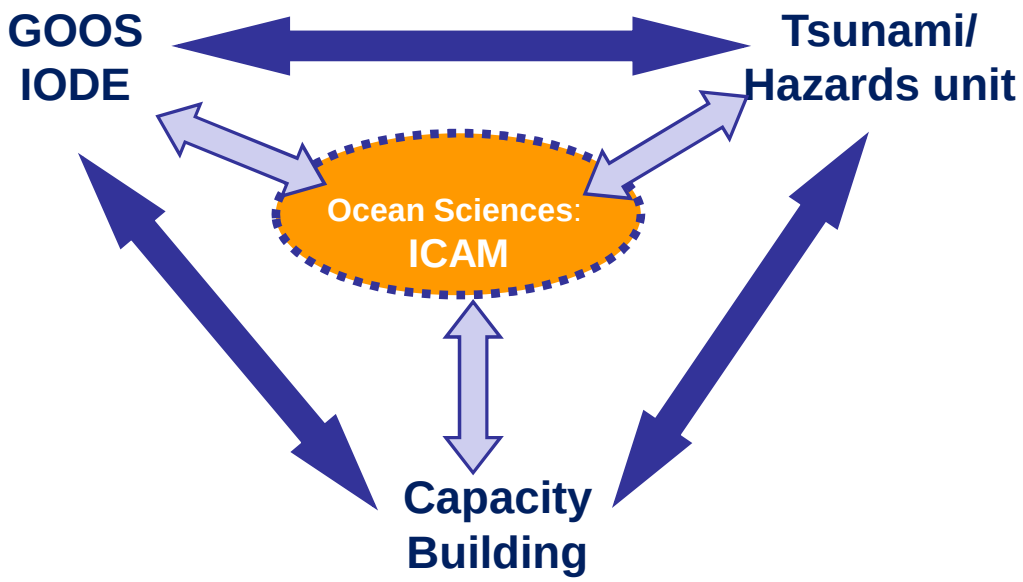
Integrated Coastal Area Management
Gestion Intégrée des Aires Côtières
Gestión Integrada de Áreas Costeras

IOC – ICAM Programme

Established in 1997 by the 19th session of the IOC Assembly with the objectives to:

1. Assist IOC Member States in their efforts to build marine scientific and technological capabilities in the field of ICM.

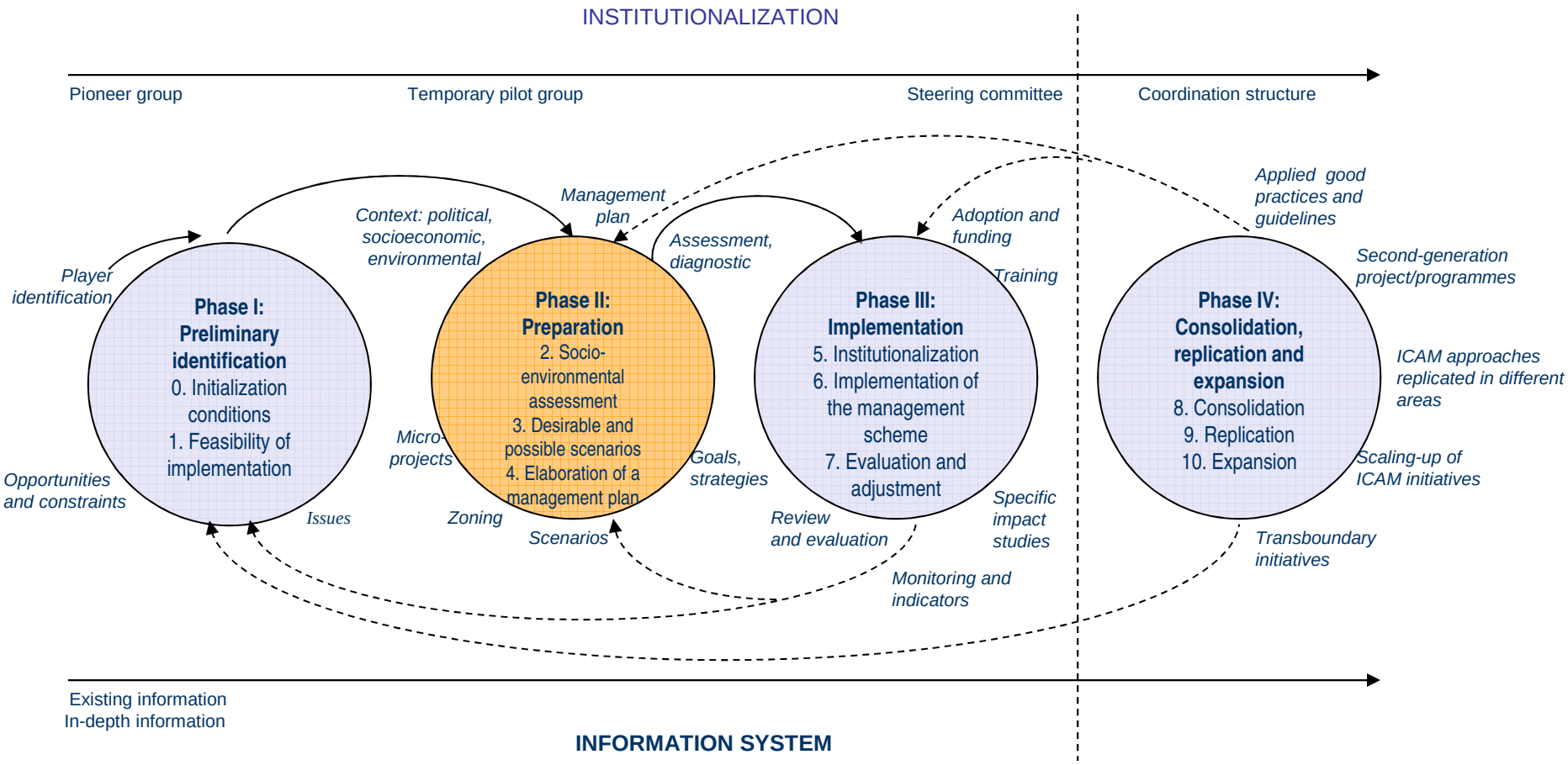
2. Ensure that scientific requirements are integrated into national and regional ICM programmes and plans



Building blocks of the programme…

- Developing **the ICAM process**, including from a scientific perspective,
- Defining **scientific requirements/inputs** in various phases of the coastal management cycle.
- Development of a set of **tools and guidelines** for addressing specific ICAM issues
- Bridging **natural and socio economic sciences**
- Coupled with **Training** component

Elements of the ICAM process



Programme objectives

(i) Increase collective capacity to respond to change and challenges in coastal and marine environments through further development of science based management tools such as **Integrated Coastal Area Management, Marine Spatial Planning, and Large Marine Ecosystem Approach;**

(ii) Build on IOC's and UNESCO's other coastal programmes in **developing Member States' capacity for the application of ecosystem-based management tools**; and

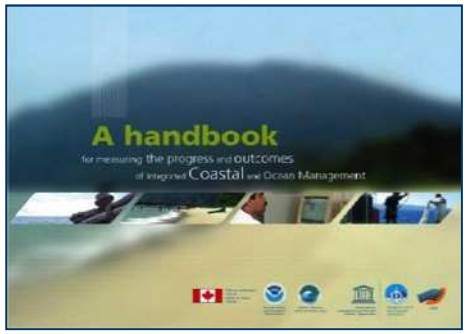
(iii) Promote the integration of **climate change adaptation** and **coastal hazards preparedness** into the application of area-based management approaches.

Guidelines and handbooks for building management and technical capacities

ICAM

❖ ***IOC Handbook on Integrated Coastal and Ocean Management indicators***

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



Goals:

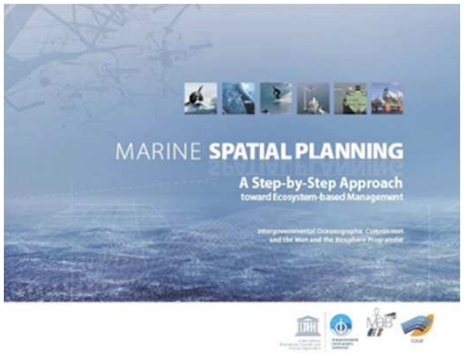
- **Healthy and productive economy**
- **Healthy and productive environment**
- **Public health and safety**
- **Social cohesion**
- **Cultural integrity**

Selection of indicators:

- **Delineate boundaries**
- **Identify critical parameters that characterize the socio-economic environment**
- **Build goals and objectives through an integrating and engagement process**
- **Identify indicators measuring changes in the objectives**
- **Rank indicators that provide the gratest value to broad number of objectives**

UNESCO IOC

Guidelines and handbooks for building management and technical capacities



❖ ***Marine Spatial Planning***

This guide is primarily intended for professionals responsible for the planning and management of marine areas and their resources. It is especially targeted to situations in which time, finances, information and other resources are limited

Planning our ocean step by step:

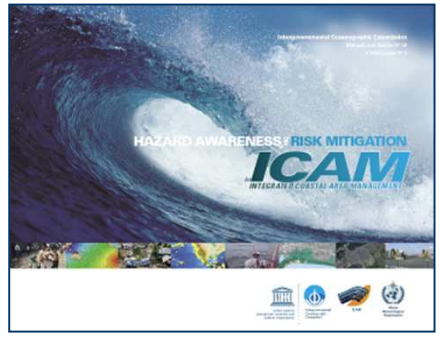
- **Collecting and mapping information about human activities (Fisheries, recreational, transportation, offshore activities, cabes, energy, defence, et al.)**
- **Connecting offshore activities with onshore communities**
- **Identification of current conflicts and compatibilities**
- **Projecting current trends in the spatial and temporal needs of existing human activities**
- **Development of a comprehensive Spatial Management Plan ensuring monitoring systems and reporting results.**

Guidelines and handbooks for building management and technical capacities

ICAM

❖ ***Guidelines for the mitigation of coastal hazards***

These guidelines aim to assist policy makers and managers in the reduction of the risks to coastal communities, their infrastructure and service-providing ecosystems from tsunamis, storm surges and other coastal hazards within the phased framework of ICAM



How to mitigate coastal hazards?

- **Identification and quantification of hazards by using numerical models to assist assessemtnt.**
- **Determining scales of vulnerability and appraising the dimensions of a comunity's vulnerability.**
- **Identification of deficiencies in preparedness.**
- **Assessing the risk and enhancing awareness and preparedness.**
- **Socio-economic risk mitigation.**

Enhance the establishment of a shared socio-economic information system to compile data on demography, distribution and valuation of uses, distribution and valuation of habitats supporting human well-being, valuation of water uses among others..

IOC

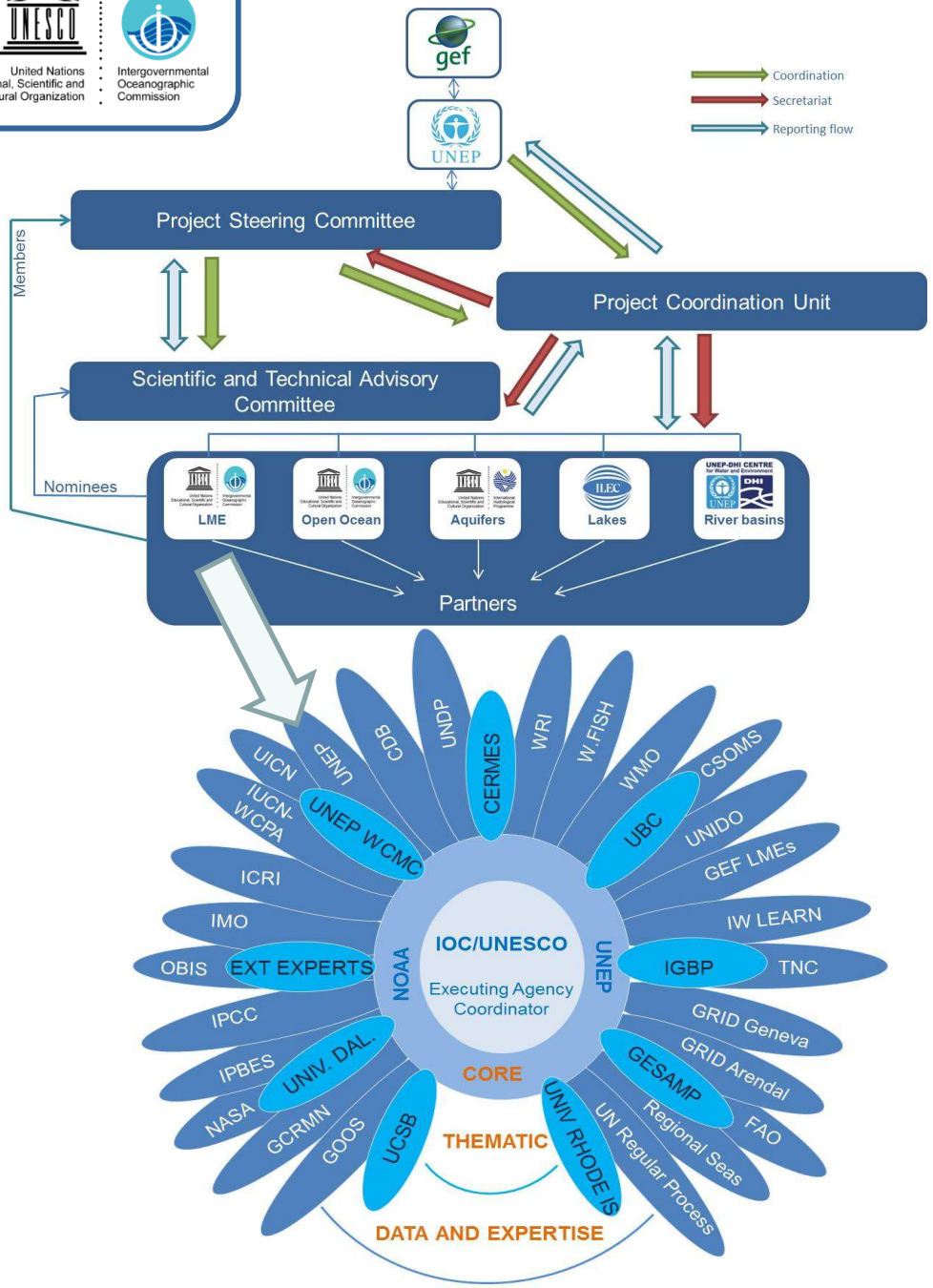
TWAP
TRANSBOUNDARY WATERS ASSESSMENT PROGRAMME

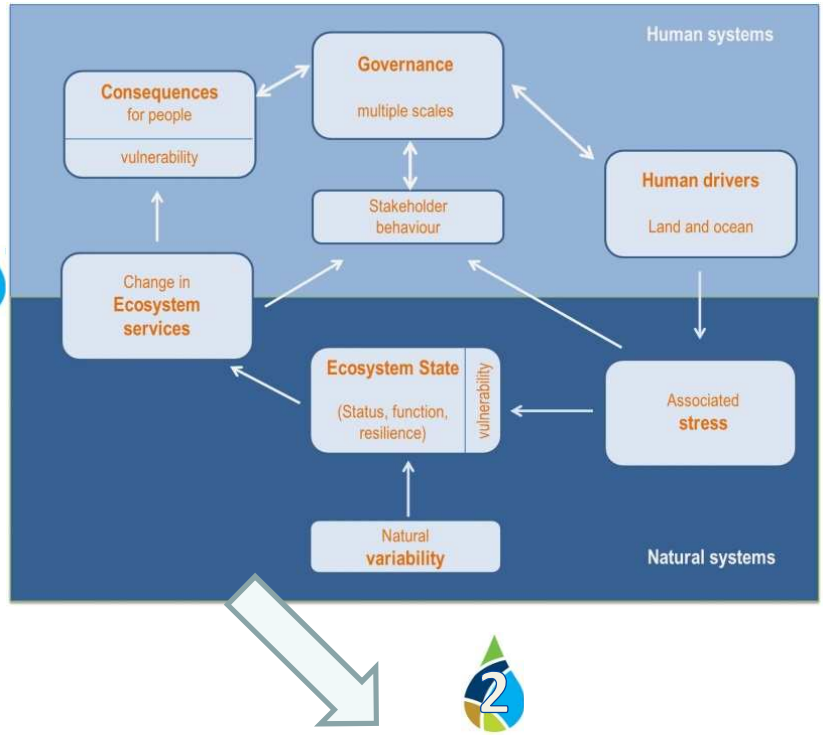
GEF funded project
Implementation: April 2013 to March 2015

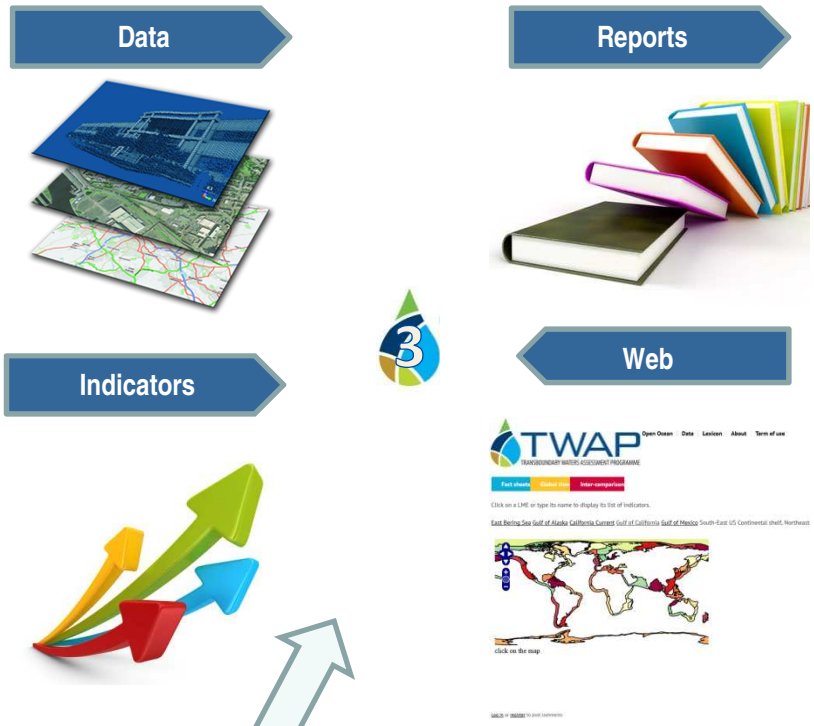
Objectives:

1. A global baseline assessment of the **status and changing condition of transboundary water systems resulting from human and natural causes**, which will allow the GEF, policy makers and international organizations to set science-based priorities for financial resource allocation and

2. The **institutional arrangements for conducting periodic future assessments of transboundary water systems** to allow the GEF and others to track the results of their interventions.







Productivity	Fisheries	Pollution and Health	Socio-economics	Governance
1. Chlorophyl a 2. Primary productivity 3. Sea surface temperature	1. Annual catch 2. Catch value 3. Marine trophic index 4. Fishing in balance index 5. Stock status 6. Catch from bottom impacting gear 7. Fishing effort	1. Nutrients (N,P,Si) 2. Coastal Eutrophication Potential 3. POPs in plastic pellets 4. Plastic debris density 5. Change in MPA coverage 6. Reefs at Risk Index 7. Mangrove extent 8. Coral reef extent 9. Cumulative human impacts 10. Delta Vulnerability index	1. % GDP fisheries 2. %GDP international tourism 3. Population within 10m coastal elevation 4. Human development Index 5. Deaths caused by climate related natural disasters	1. Governance architecture

TWAP
TRANSBOUNDARY WATERS ASSESSMENT PROGRAMME

Networking with:

i. ICZM / MSP Networks
ii. Coastal/Marine atlases and its communities
iii. International, National, Regional and Local Authorities producing socio-economic data.
iv. Integration of results from the research community

Facilitates:

- Share data and information
- Exchange experiences and good practices
- Lessons learnt
- New ideas!

OceanExpert
Directory of Marine & Freshwater Professionals

Cooperation with:

- Other national and regional initiatives in order to join efforts and find common opportunities.

e.g. Decision Support tools in Latin America, including common socio-economic aspects:

i. Coastal atlases in the South-East Pacific (SPINCAM)
ii. Coastal atlases in the Caribbean (CMA)
iii. Coastal atlases in the Atlantic Coast

Capacity building

ICAM

The capacity and partnership development through:

1.Twinning and learning exchanges, training the trainer.

OceanTeacher

A Training Resource for Data & Information Management Related to Oceanography & Marine Meteorology

1.Sectorial workshops to establish common protocols for data and information reporting, data management and data sharing, among others.

Ways of participation

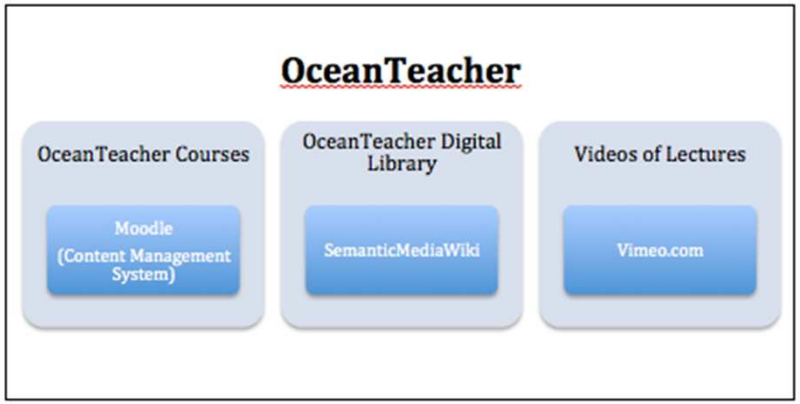
Coastal and Marine policies require an **active public participation**, users' needs are crucial for the success of it implementation:

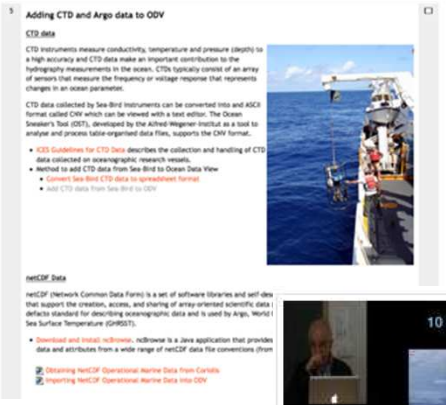
-Users **needs and concerns** should be analysed in an integrated way.

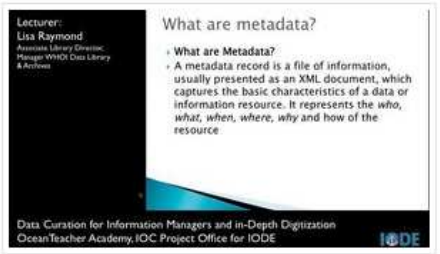
-Involve **citizens and stakeholders** attending lessons learnt from other projects/regions.

- Facilitate transparency to improve **excellence in governance**.

OceanTeacher
IODE's Capacity Development Tool



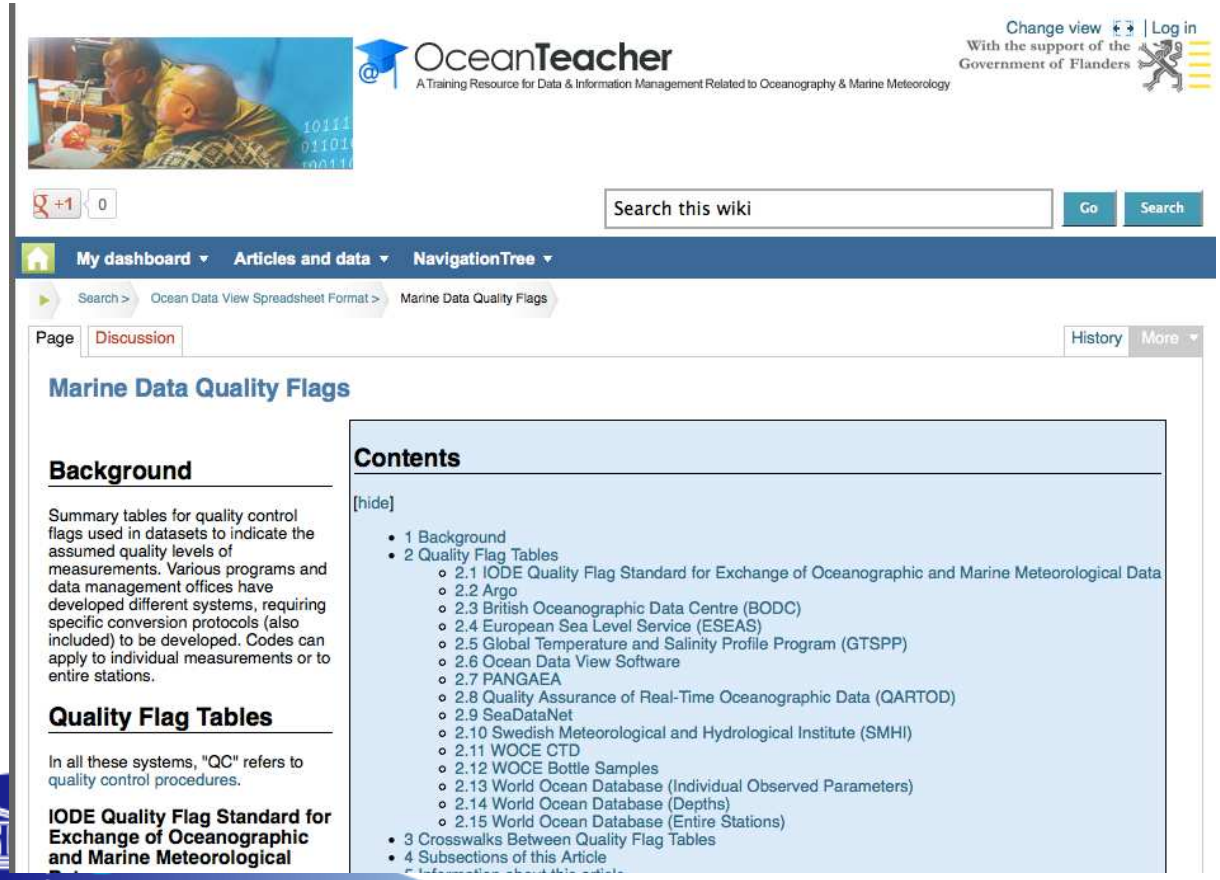




- OT Learning Platform consists of:
  - **OceanTeacher Courses**
  - **OceanTeacher Digital Library**
  - **Videos of Lectures**
  - **Contents freely and openly available**
- Web-based training platform that supports:
  - **Classroom training (face-to-face)**
  - **Blended training, online tutoring**

Course Management System (Moodle)

Digital Library (wiki)



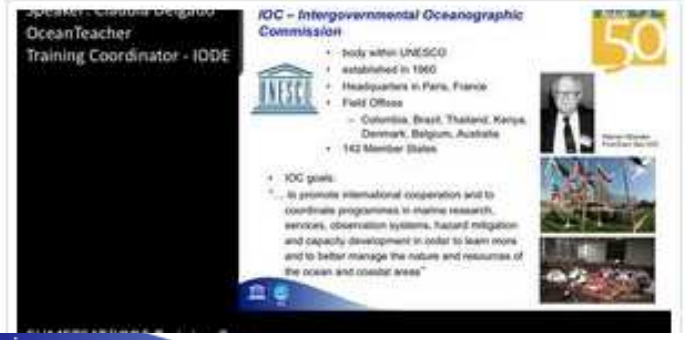
Lecture Video Recordings

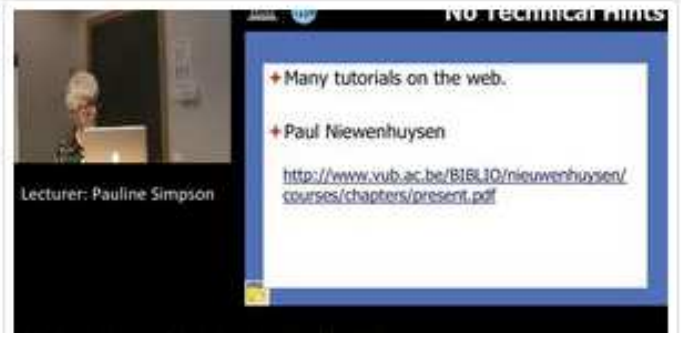
OTA - MIM - Preservation of Books and Ot...

10 months ago

First SeaDataNet Training Session, 2-6 Jul...

10 months ago





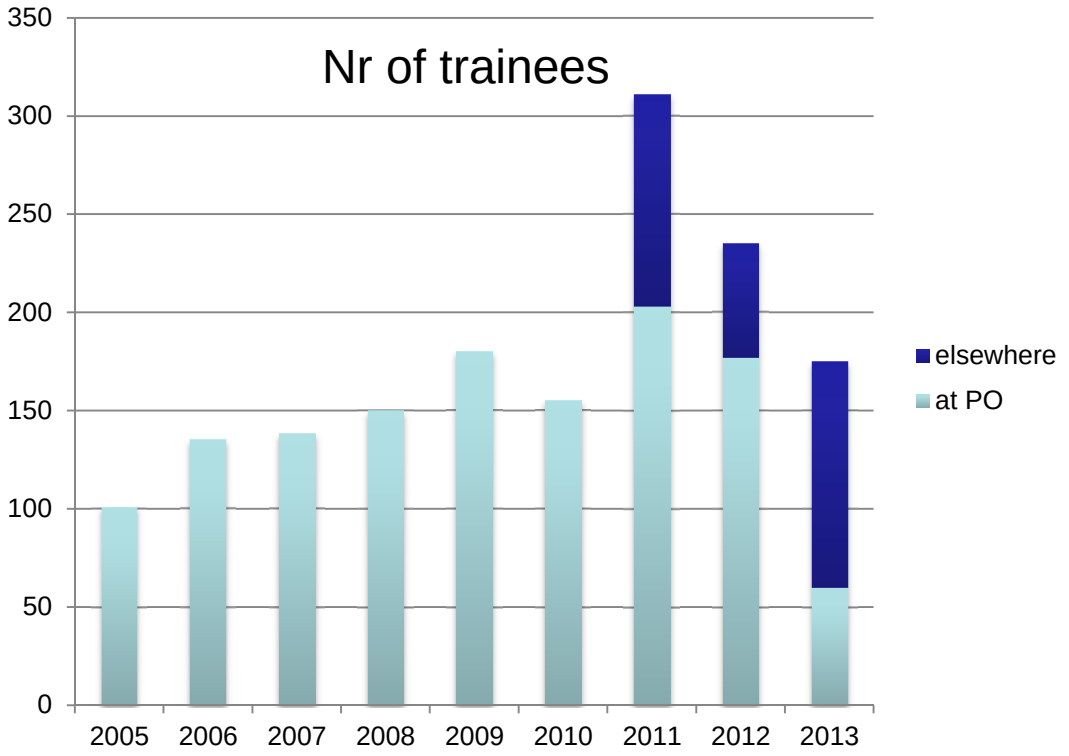
Storage and access through Vimeo.com

Training Centre Oostende

- Est. 2005
- IODE Secretariat
- International Training Centre
- International Conference Centre
- Host for IOC/IODE data and information services (Data/information hub)
- Expert Centre
- ~15 events/year
- Support from Flanders Government
- Close cooperation with Flanders Marine Institute (VLIZ)

- 2005-13:
  - **~1300 trainees on Ostend site**
  - **from ~120 countries**
  - 6-8 courses/year

- Training Courses:
  - > 50 000 USD/course
  - ~ 3000 USD/student
  - ~ 15 sponsored students/course
  - Co-sponsoring

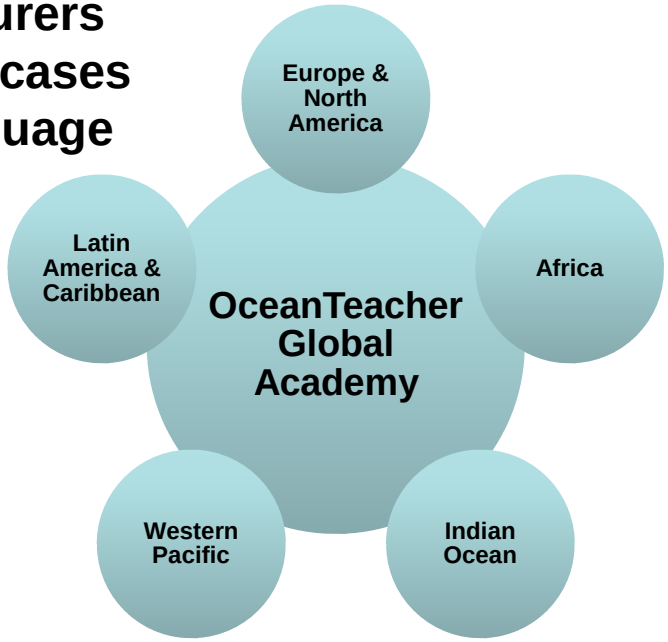


OceanTeacher Global Academy

From centralized => worldwide training facility

Training courses related to IOC programmes, **EU projects** and **relevant to Member States in the regions**.

Regional Training Centres (RTCs)
Local lecturers
Local use cases
Local language



IOC

CARISCIENCES

- **CARISCIENCE** is a **UNESCO** affiliated network of Research Units/Departments in the Basic Sciences in the Caribbean which was officially launched in 1998 by the then Vice Chancellor of the University of the West Indies, the late Honorable Rex Nettleford. It is a non-governmental organization administered by researchers for researchers. Membership is open to any established Research Centre or Unit in the Caribbean.

CARISCIENCES

- Currently, its members are from Barbados, Guadeloupe, Guyana, Jamaica, Suriname and Trinidad and Tobago and embrace **all Universities in the region**.
- In its short period of existence we have established an impressive track record mounting over 40 Conferences/Workshops/ Symposia/Summer Schools and funding research, academic visits and training workshops.


¡Muchas gracias!
Merci beaucoup!
Thank you!
شُكْرًا
Спасибо
谢谢