IOC Capacity Development Strategy 2015-2021 and the Role of the OceanTeacher Global Academy (OTGA)

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IOC: from vision to execution

- **Improving governance**
- **Applying knowledge for societal benefit**
- **Building scientific knowledge**

Diagram:
- A. Ocean research
- B. Observing system / data management
- C. Early warning and Services
- D. Assessment / information for policy
- E. Sustainable management and governance
- F. Capacity development

Arrows indicate the flow and interaction between the components.
What capacity development?

Aspects of Capacity:
- Knowledge
- Skills
- Systems
- Structures
- Processes
- Values
- Resources
- Powers

Levels:
- Individuals
- Organisational
- Societal

Source: IASS, 2016
IODE & Capacity Development

- Early 1980’s
- 1989 ODIN AFRICA
- 1991 Ocean PC
- 1987 IODE Resource Kit
- 2001 Ocean Teacher
- 2009 Ocean Teacher Academy
- 2014 Ocean Teacher Global Academy
IOC’s Capacity Development tool: OceanTeacher

The new OceanTeacher Global Academy builds upon and expands the existing OceanTeacher Academy based at the IOC Project Office for IODE in Oostende, Belgium, to a truly **worldwide training facility**.

It provides a **programme of training courses** related to IOC programmes, contributing to the **sustainable management of oceans and coastal areas worldwide**, and relevant to Member States in the regions.
2015: OceanTeacher goes global… (the OceanTeacher Global Academy)

- **OTGA Concept:**
  - At least 1 RTC for each region and language group
  - Complementary to existing regional training centres
  - Self-driven, based on locally available expertise
  - Should be co-located with other ongoing and funded programmes/projects
  - Sharing of courses with other RTCs using video conferencing technology
  - Inviting of specific expert lectures through video conferencing
  - Use of common OceanTeacher e-Learning Platform

- **OTGA Project funded by FUST (Government of Flanders, Belgium)**

**RTCs established:**
- Belgium
- Colombia
- India
- Kenya
- Malaysia
- Mozambique
- Senegal

**Candidate RTCs:**
- China
- Iran
OceanTeacher Facts & Figures

- 2500 trainees F2F
- 130 courses
- 120 countries
- 4 languages
- 4200 registered users on the OT eLP
Expresses its appreciation for the contribution of the Intergovernmental Oceanographic Commission to capacity-building through its Ocean Teacher Academy training system, which has provided training in ocean data and information management to more than 1,300 students and professionals from more than 120 countries, and takes note of the setting up of the Ocean Teacher Global Academy, operating through a network of regional training centres, which builds capacity and promotes expertise available in developing countries;
OceanTeacher e-Learning Platform

Moodle Modular Object-Oriented Dynamic Learning Environment

Web based Contents Management System
OceanTeacher e-Learning Platform

Course Categories

• IODE: marine data and information management, inc. OBIS
• MPR / ICAM: Coastal Marine Management and Planning
• HAB: Harmful Algal Bloom and Advanced Phytoplankton (APC) Training
• Tsunami
• MSR/DOALOS: Marine Scientific Research
OT e-Learning Platform:
Course Outlines & Contents

Basic Data Analysis with ODV
ODV provides the tools for the graphical analysis of the data. Some of the common analysis plots used by marine scientists are:

- **STATION PLOTS**: Graphs of selected parameters plotted versus depth, for 1 or more stations.
- **SCATTER PLOTS**: Graphs of two (sometimes three) parameters plotted against each other, usually for multiple stations and multiple depths. One famous scatter plot is the T-S diagram, plotting temperature (T) and salinity (S) against each other.
- **SECTION PLOTS**: Graphs of a selected parameter versus depth along a path ("spine") through the ADS.
- **SUBSURFACE PLOTS**: Graphs of one variable conditioned on a surface within the ADS volume defined by a constant value of a second variable (for example, a graph showing salinity on the surface where the temperature is equal to 11 degrees C). The term "surface" here should not be confused with the ocean surface.

**Animations in ODV**: ODV has the ability to produce animated series of sequential plots in the form of an animated GIF file. Animation is a useful tool to visualize the data.

Creating Marine Data Station Plots in ODV
Station plots, also sometimes called "profiles", allow you to assign arbitrary collection variables on the X and Y axes.

Creating Marine Data Scatter Plots in ODV
Scatter plots of X-Y values, where X and Y can be any parameters selected by the user. Optionally, a third parameter Z can be portrayed by the colors of the X-Y points. One well-known scatter plot is the "T-S Plot". This type of plot is useful for analyses of ocean properties or dynamics and is particularly useful for data quality control.

Creating Marine Data Surface Plots in ODV
This type of plot creates a vertical "slice" through the data, where the length axis is often a geographic dimension (latitude, longitude), either taken as a single straight line or a multi-segment "spine" defined by the user. It is widely used to illustrate the structure of the sea as it relates to depth.

In addition to the method described in "Creating Marine Data Section Plots in ODV", another variable can be overlaid on the section. Right-click on the white space on the canvas and select Window Layout. Then select Create Overlay Window and the overlay windows will aligned with the existing one. Select a variable (e.g., Claygore) then Accept the layout. The second variable will be overlaid.

Animations in ODV

The book module enables a teacher to create a multi-page resource in a book-like format, with chapters and subchapters. Books can contain media files as well as text and are useful for displaying lengthy passages of information which can be broken down into sections.

A book may be used:
- To display reading material for individual modules of study
- As a staff departmental handbook
- As a showcase portfolio of student work

More help

Resources

- Book
- File
- Folder
- Label
- Page
- URL

Add an activity or resource

- Database
- External tool
- Forum
- Glossary
- Lesson
- Questionnaire
- Quiz
- SCORM package
- Survey
- Wiki

Add
Cancel
OT e-Learning Platform: Students Assessment Tools

- Assignment, questionnaire, quiz, polls, survey, essay, etc...
OceanTeacher e-Learning Platform: Assessment reports

• results provided ‘real time’ / remotely
OT e-Learning Platform: customisable

- (Platform environment) Language
- RTC logos, others
- etc…
OceanTeacher
Online Application Form

- Fully online application form (using Wufoo)
- Customisable: allows managing mandatory vs optional questions
- Allows uploading mandatory files (e.g. endorsement letter, others)
- Allows different language interfaces
- AF translated into 4 languages:
  - English
  - French
  - Spanish
  - Portuguese
- Easily exportable output (spreadsheet)
- Allows exporting in PDF (individual apps)
- Allows setting deadline automatically
- Automatic feedback email reply
Education revolution: training the 21st century generation using 19th century tools?

The modern mail-based “correspondence school” is said to have been invented at the University of Chicago in 1891.

In 1951, WFIL-TV in Philadelphia broadcast The University of the Air as one of the first educational television programs.

Source: The Virtual Revolution: Understanding Online Schools. Education Next, Spring 2006
Qingdao Declaration (2015): promoting the use of ICT to achieve education targets

The Qingdao Declaration is the first global declaration on ICT in education. The text, approved unanimously by participants, highlights the different ways in which technology can support the global agenda for education which was suggested at the World Education Forum for the next 15 years. It states that “the remarkable advances in Information and Communication Technologies (ICT) and the rapid expansion of internet connectivity have made today’s world increasingly interconnected and made the knowledge more accessible for every girl and boy, woman and man. To achieve the goal of Inclusive and Equitable Quality Education and Lifelong Learning by 2030, ICT must be harnessed to strengthen education systems, knowledge dissemination, information access, quality and effective learning, and more efficient service provision”.

The Declaration is a clear statement in favour of the use of ICT to foster access and equity in education as well as to promote the effective pedagogical use of ICT. It highlights in particular the paramount role that teacher development and support will have to play. It stresses that increasing efforts have to be made to promote the culture of open educational resources and the need to ensure quality assurance and recognition of online learning. Finally, it encourages governments, industry partners and all other education stakeholders to join forces and share resources to create equitable, dynamic, accountable, and sustainable learner-centered digital learning ecosystems.
# OT and the IOC Capacity Development Strategy

<table>
<thead>
<tr>
<th>Output</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>1. Human Resources Developed</td>
<td>1.1 Academic (higher) education</td>
</tr>
<tr>
<td></td>
<td>1.2 Continuous professional development</td>
</tr>
<tr>
<td></td>
<td>1.3 Sharing of knowledge and expertise / community building</td>
</tr>
<tr>
<td></td>
<td>1.4 Gender balance</td>
</tr>
<tr>
<td>2. Access to physical infrastructure established or improved</td>
<td>2.1 Facilitating access to infrastructure (facilities, instruments, vessels)</td>
</tr>
<tr>
<td>3. Global, regional and sub-regional mechanisms strengthened</td>
<td>3.1 Further strengthening and supporting secretariats of regional commissions</td>
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<td></td>
<td>3.2 Enhance effective communication between regional sub-commission secretariats and global programmes as well as other communities of practice (inc. other organisations)</td>
</tr>
<tr>
<td>4. Development of ocean research policies in support of sustainable development objectives promoted</td>
<td>4.1 Sharing of information on ocean research priorities</td>
</tr>
<tr>
<td></td>
<td>4.2 Developing national marine science management procedures and national policies</td>
</tr>
<tr>
<td>5. Visibility and awareness increased</td>
<td>5.1 Public information</td>
</tr>
<tr>
<td></td>
<td><strong>5.2 Ocean Literacy</strong></td>
</tr>
<tr>
<td>6. Sustained (long-term) resource mobilization reinforced</td>
<td>6.1 In-kind opportunities</td>
</tr>
<tr>
<td></td>
<td>6.2 Financial support by MS to IOC activities</td>
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</tbody>
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**IOC CD specific Activities where OTGA can contribute to**

*Example: continuous professional development:*

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<tr>
<td>1. Human Resources Developed</td>
<td>1.2. Continuous Professional Development</td>
<td>1.2.1. Promote and assist with the organization of training courses, workshops and ‘summer schools’ relevant to the IOC mandate</td>
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<tr>
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<td>1.2.2 Establish, or collaborate with other organizations on, a internship/fellowship programme (including on-board training)</td>
</tr>
<tr>
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<td></td>
<td>1.2.3 Establish and collaborate with other organizations on, a visiting lecturer programme</td>
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<td>1.2.4 Promote and assist with the establishment of regional training (and research) centres relevant to the IOC mandate</td>
</tr>
<tr>
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<td>1.2.5 Promote the sharing of the training materials</td>
</tr>
</tbody>
</table>
Agenda 2030

1. No Poverty
2. No Hunger
3. Good Health
4. Quality Education
5. Gender Equality
6. Clean Water and Sanitation
7. Renewable Energy
8. Good Jobs and Economic Growth
9. Innovation and Infrastructure
10. Reduced Inequalities
11. Sustainable Cities and Communities
12. Responsible Consumption
13. Climate Action
14. Life Below Water
15. Life on Land
16. Peace and Justice
17. Partnerships for the Goals
Sharing training resources and expertise in a coordinated way