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# Ocean Literacy and the IOC



Fostering ocean-related education and the culture of conservation, restoration and sustainable use of our Blue Planet.

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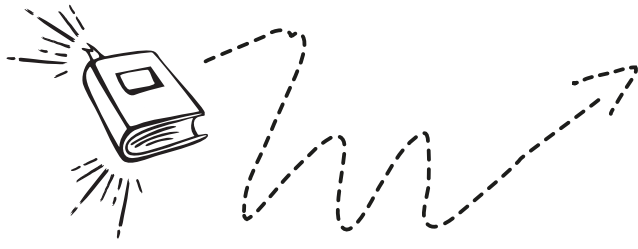
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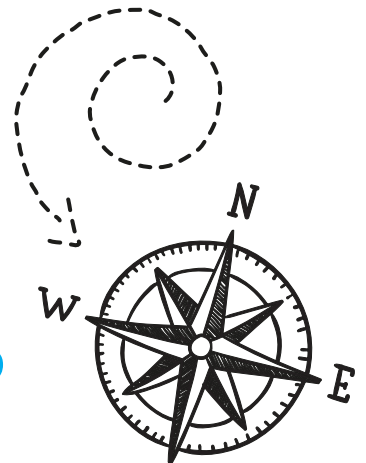
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## WHAT IS OCEAN LITERACY?

The general public is not aware of the full extent of the medical, economic, social, political and environmental importance of the sea.

Many of us are not aware that our day-to-day actions can have a cumulative effect on the health of the ocean and seas – a necessary resource that must be protected for all life on planet earth to exist.

In other words, people lack a sense of 'Ocean Literacy' i.e. an understanding of the ocean's influence on us and our influence on the ocean.

An ocean-literate person:

- **understands** the importance of the ocean to humankind;
- can **communicate** about the ocean in a meaningful way;
- and
- is able to make informed and responsible **decisions** regarding the ocean and its resources.

While education and traditional advertising can be effective in creating awareness, numerous studies document that behavior change rarely occurs as a result of simply providing information, but through initiatives delivered at the community level focusing on removing barriers to an activity and therefore enhancing the activity's benefits.

In more detail, ocean literacy is more than just educating or informing the public and the marine and maritime stakeholders about the importance of oceans.

Ocean literacy, through the use of behavioral change methods and by adopting a system approach, aims at facilitating the creation of an ocean literate society.

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## WHY SHOULD THE IOC BE ENGAGED IN OCEAN LITERACY ACTIVITIES?

Increased Visibility and Awareness is one of the foreseen outputs of the **Intergovernmental Oceanographic Commission (IOC) Capacity Development Strategy 2015-2021**.

This output should be achieved through two main activities:

1. Promotion and development of **public information** (communication) departments in ocean research institutions.
2. Development and enhancement of an **IOC ocean literacy programme** as a community of practice for sharing experiences within and across regions.

The **Expected Result (ER) n.1** of the **UNESCO Draft Resolution 39 C/5** has been identified as: *"science-informed policies for reduced vulnerability to ocean hazards, for global conservation and sustainable use of oceans, seas and marine resources, and increased resilience and adaptation to climate change, developed and implemented by Member States, towards the realization of Agenda 2030"*.

Ocean Literacy can support the achievement of this ER by contributing to science and policy mechanisms mainly through ocean science communication methods and tools, and by training scientists to increase their skills. Evidence based decision-making benefits regions and communities, and the process of bringing together scientists and decision makers dispels the myth that science and policy operate in separate environments.

The **Road map for the Future of the IOC** defines specific actions to be implemented by the IOC with respect to Ocean Literacy, e.g. evaluate ocean literacy needs and actions to address them at its best, possibly through an **ad hoc** working group in consultation with Member States and leading scientists.

Finally and from an internal point of view, ocean literacy can improve communication of all IOC programmes and facilitate collaboration with other UNESCO sectors.

## EXAMPLE 1. Collaboration between the IOC OCEAN OBSERVATION SECTION (OOS) and the COMMUNICATION, AND INFORMATION SECTOR (CI) - YOUTH MOBILE INITIATIVE and the ARGO PROGRAMME.

In the framework for building inclusive knowledge societies, UNESCO launched the YouthMobile Initiative in 2014 to empower young people, particularly young women, to acquire technical skills and confidence to develop smart mobile apps for sustainable development and global citizenship. The YouthMobile Initiative builds on the experience of many worldwide initiatives that introduce young people to computer science programming (learning-to-code) and problem solving (coding-to-learn).

### The Ocean Apps Challenge

The **Ocean Apps Challenge** was launched in 2014 calling on teams of young people to design and later build mobile Apps that demonstrate the value of accessing and using ocean data to address local and sustainable concerns.

The Challenge utilizes data from the UNESCO Intergovernmental Oceanographic Commission Argo initiative.

Discussions are in place to continue and further develop this initiative under the Galway Statement Implementation Programme<sup>1</sup>.

<sup>1</sup>On 24 May 2013, Commissioner Máire Geoghegan-Quinn and Commissioner Maria Damanaki, on behalf of the European Union, together with high level representatives from United States of America and Canada signed the Galway Statement on Atlantic Ocean Cooperation to launch a Transatlantic Ocean Research Alliance.

The goal is to work together in order to better understand and "increase our knowledge of the Atlantic Ocean and its dynamic systems - including interlinks with the portion of the Arctic region that borders the Atlantic" and to promote the sustainable management of its resources.



Oulu City students demonstrating the new 'Aaro's Adventure' mobile game aimed at youth to preserve the world's oceans. The game is based on oceanographic data from the Finnish Meteorological Institute and the UNESCO's Intergovernmental Oceanographic Commission ARGO Initiative. The App raises the player's awareness about the world's oceans protection and the sustainable future of our planet through a series of mini-games.

Photo: © Tiina Fredriksson  
<http://www.youthmobile.org>

## EXAMPLE 2. Collaboration between the IOC and the EDUCATION SECTOR on the GLOBAL ACTION PROGRAMME (GAP) on EDUCATION for SUSTAINABLE DEVELOPMENT

In 2014, IOC was invited by the Education Sector to the UNESCO World Conference on Education for Sustainable Development (ESD).

The conference marked the end of the UN Decade of ESD (2005-2014) and saw the launch of the **Global Action Programme (GAP) on ESD**.

### IOC's Commitment to the GAP

During the conference the IOC co-hosted, together with the World Ocean Network, a workshop with the title "One Planet, One Ocean: ESD and Marine Knowledge".

The IOC also launched a commitment for the GAP: *"IOC aims at promoting a better awareness of sustainable development issues related to the ocean, i.e. ocean acidification, marine biodiversity protection, prevention and preparedness of marine related hazards, through the integration of marine matters in education curricula and in citizens' awareness raising campaigns.*

*Results will be achieved through the definition of advocacy activities tailored to governments and other international organizations.*

*IOC will promote Ocean Education and Literacy globally through the creation of an enabling framework for committed partners to work together, building on the*



Best practices from our oceans are source of inspiration: school of fishes teach us importance of networks and partnerships i.e. **"alone we can do so little, together we can do SO MUCH"**. Image credits from <http://www.seachangeproject.eu>

*support of UNESCO and IOC Member States, and as a direct contribution to the ESD global action programme.*

*The target for the first year is the establishment of a **formal partnership** and related **action plan**, and for the second year the launch of an **awareness raising campaign** to present the initiative during major events related to Sustainable Development".*

## EXAMPLE 3. Collaboration between the IOC and the SOCIAL AND HUMAN SCIENCES (SHS) SECTOR - Contribution to the UNESCO OPERATIONAL STRATEGY ON YOUTH

The IOC is contributing to the implementation of the UNESCO Operational Strategy on Youth coordinated by the SHS.

### Improving Ocean Literacy, WHY?

**Externally**, improving ocean literacy could:

→ **Enhance** the support of Member States for IOC and its programmes.

In some cases, there is a lack of support for IOC programmes because of a lack of ocean literacy, i.e. of the importance for the ocean to humankind.

Increasingly, diplomats are participating in IOC governing bodies meetings, and they are taking the decisions regarding their countries' support (or not) to IOC programmes. There is a strong need to increase the understanding of the societal importance of those programmes.

→ **Facilitate** the collaboration with important donors such as the European Commission (EC).



The challenge is to raise awareness of the natural and cultural significance of the ocean, as well as of its state and role, while improving the knowledge of the ocean. In a few words: let's have a deep look to our Blue Planet!

The EC Directorate General (DG) Research and Innovation and the DG Maritime Affairs are both strongly interested in promoting ocean literacy and in the role UNESCO can play as the only UN agency with a mandate both in ocean science and education.

# ACHIEVEMENTS

A number of results have already been achieved:

## → H2020 Sea Change Project

The IOC is one of the partners of the H2020 Sea Change project on ocean literacy. The IOC leads the WorkPackage on Marine Governance. Some important outputs of the projects:

- A road map for effective ocean science-society-policy interface.
- A Massive Open Online Course (MOOC) on ocean literacy.

The MOOC has 500 participants from all over the world. It will be one official pilot project of the UNESCO Network of Schools (ASPnet).

- A proposal for a UNESCO Chair on Ocean Literacy.

## → World Oceans Day 2016

- A thematic round table 'Mobilizing society and stakeholders for effective ocean science communication' was organized during the World Oceans Day celebration in Paris HQ in June 2016.
- A booklet 'Good Practices in Ocean Science Communication' has been published.



## → Global Ocean Science Education (GOSE) Workshop 2016

The Global Ocean Science Education Workshop has been held in Paris in June 2016. The workshop participants hailed from 17 countries from Europe, North and South America, and Africa, and represented different organizations: governmental agencies, research centres, NGOs and aquaria. The workshop was sponsored and supported by the European Commission and by the Institute of Marine Engineering, Science and Technology (IMarEST).

## → CommOCEAN

The IODE was part of the organizing committee, together with the Flanders Marine Institute and the European Marine Board, of the second International Marine Science Communication Conference. A 1-day training on ocean science communication has been held after the conference. The training has been carried out within the framework of the Ocean Teacher Global Academy.

## → EMSEA and EMSEA-MED

The IOC is actively involved in the work of the European Marine Science Educators Association (EMSEA), and is working on adapting the ocean literacy principles to the Mediterranean Sea to develop a Mediterranean Sea Literacy.

## → Participation in the G7 Global Awareness Campaign on Marine Litter

The IOC is part of the core writing group that is designing the Global Awareness Campaign on Marine Litter sponsored by the G7. The campaign will be launched at the next G7 Science Ministers meeting to be held in Torino (Italy) in September 2017.

## → New World Oceans Day Portal

The IOC, together with UN DOALOS, launched a new UN Portal for the World Oceans Day. Largely due to uneven diffusion of communication materials and lack of multilingual resources, many countries and some important segments, such as governments and the scientific community, have not been engaged in the celebrations. This new portal filled the gap.

## → UNESCO CAMPUS on ocean

The UNESCO Campus is part of a series of thematic conferences organized by UNESCO. The idea is to educate youth about current social, educational and environmental challenges, thus helping them to grow as responsible citizens. Six UNESCO Campus on the ocean have been organized between 2014 and 2016. 1800 young people have participated in these events so far.



© UNESCO/Line Bourdages. Middle school students attending the UNESCO "Ocean" Campus.

## → Supporting the creation of national networks on ocean literacy

The IOC supported the creation of a new network for ocean literacy in Italy, made of almost 100 representatives from academia, NGOs, private sector and public entities.



### → [European Parliament Pilot Project on Ocean Literacy](#)

In May 2017, the Seas, Rivers, Islands and Coastal Areas Intergroup of the European Parliament has supported the submission of a European Parliament Pilot Project on Ocean Literacy.

## FUTURE PERSPECTIVES

A number of projects and initiatives are in the pipeline:

### → [Promoting Ocean Literacy in Africa](#)

A preliminary discussion has been held with the IOC Coordinator for Africa, with colleagues from the UNESCO Brussels office and with the head of the Marine Resources Unit at the EC DG RTD on how to promote ocean literacy in Africa. A meeting will be organized with EC DG International Cooperation and Development (DG DEVCO).

### → [GOSE 2017](#)

The workshop took place in Venice on 23-25 May 2017, and has been organized jointly with the Venice Ca' Foscari University.

### → [Magellan 500th anniversary](#)

The main concept is to organize an international virtual expedition across the world's ocean 500 years after Magellan's expedition (1519-1522) and build upon the past, current and future knowledge of the ocean, the evolution in ocean observation capacity and the unprecedented change in global networking and outreach abilities.

### → [1st Ocean Observers Workshop](#)

The workshop took place in Brest on 13-14 June 2017 and has been co-organized by JCOMMOPS, ARGO, and IODE.

The Ocean Observers workshop brought together ocean scientists, educational authorities and teachers, marine communicators, sailing community and other stakeholders (public, policy-makers, and etc.), who are willing to share marine science educational resources and experiences for exploring the possibilities to

establish new international collaborative activities.

### → [Voluntary commitment for the implementation of the Sustainable Development Goal 14](#)

The Ocean Conference adopted the intergovernmentally agreed declaration the "Call for Action".

The document aims at supporting the implementation of [Sustainable Development Goal 14 \(SDG14\)](#), and it contains a report of the co-chairs' summaries of the partnership dialogues, as well as a list of voluntary commitments for the implementation of SDG14. Education, awareness raising, and ocean literacy are explicitly mentioned in the Call for Action.

The IOC submitted a voluntary commitment on ocean literacy linking SDG14 to SDG4 (Quality Education for All).

### → [Organization of the EMSEA Conference 2017 \(7-10 October 2017, Malta\)](#)

Back to back with the Our Ocean Conference (5-6 October 2017, Malta) the 4th Conference of the European Marine Science Educators Association will be organized around the following themes:

- Promoting a further penetration of Ocean Literacy in School Curricula: challenges and opportunities;
- The digital age of Ocean Literacy;
- Ocean and Human Health;
- Future scenarios and roles for Ocean Literacy.



# CONCLUSIONS

If we are to succeed in implementing global ocean policy such as SDG14, and maintain healthy ocean ecosystems we must build a global constituency for the ocean, and this can only be done through increasing awareness.

Ocean Literacy is also a pre-requisite for the world's quest for a more marine-oriented society and economy<sup>2</sup>.

The IOC, in collaboration with other UNESCO Sectors, can become the reference point for quality educational products, and can provide training and capacity development opportunities for marine scientists to help them better communicate their results and contribute to a more efficient science – policy interface.

The IOC can also collaborate with NGOs and the private sector in order to develop ocean science-based campaigns and initiatives.

The proposal is to develop an Ocean Literacy International Centre acting as a clearinghouse<sup>3</sup> or repository of educational materials related to all the IOC programmes.

Furthermore, the centre could assist Member States in the development of ocean science education and communication, while organizing training activities.

The Ocean Teacher Global Academy can offer the needed infrastructure in terms of both e-learning platform and training organization functionalities.

<sup>2</sup> The ocean is the new economic frontier. It holds the promise of immense resource wealth and great potential for boosting economic growth, employment and innovation (OECD, 2016).  
<sup>3</sup> A good existing model is that one of the Tsunami Information Centres (TICs) that functions as a clearinghouse for tsunami related information





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