

European marine educators, unite!

Europe's quest for a more ocean-oriented society and economy.

Knowledge is an engine for sustainable growth in the interconnected global economy and improving knowledge about the seas and oceans is a key element to achieving that growth in the European Union.

A fundamental tenet of Ocean Literacy is that marine knowledge should reach not only young students but all age groups. The European Commission's Directorate-General for Maritime Affairs and Fisheries states in its 'Marine Knowledge 2020' initiative that public information is fundamentally a public good that can benefit a wide body of stakeholders. By improving marine knowledge, the initiative aims to improve the quality of public decision-making at all levels. A more informed and concerned public will better understand the need to manage ocean resources and marine ecosystems in a sustainable way, and indeed an ocean-literate person is 'able to make informed and responsible decisions regarding the ocean and its resources'.

However, the basic understanding about oceans and seas seems to be insufficient in Europe. There is still a gap between what scientists know, and what the general public understands, about the marine environment, despite the general quest for marine knowledge from the public. Ocean sciences seem to be left aside in most high schools syllabi. Unfortunately, there are only a few studies conducted on the subject of ocean knowledge and ocean education in Europe. This scarcity of information seems to be another indication that ocean knowledge is limited in most European countries.

In 2011, the College of Exploration initiated an international meeting at the annual National Marine Educators Association (NMEA) conference in Boston, Massachusetts, attended by several European marine educators. At this meeting a new network of marine educators was born, the 'European Marine Science Educators Association' or 'EMSEA'. EMSEA is Europe's own network of marine educators, a network that is closely affiliated with NMEA and the international ocean community. EMSEA's core business is to establish a platform for ocean education within Europe. Europe

has much to offer in terms of valuable marine projects and educational materials, but the efforts are often poorly visible, and thus seldom used by others. EMSEA is therefore dedicated to facilitate the exchange of best practice in marine education, to provide a networking directory for marine educators and to organize annual conferences for educators throughout Europe.

While people the world over express serious concerns about the protection and the health of the ocean, Europe has yet to provide a structure to make Ocean Literacy its priority.

The position paper of the European Marine Board 'Navigating the Future IV', which outlines the most important marine thematic research priorities for Europe (2012–2106), clearly states the urge for a European consensus on Ocean Literacy. Questions such as what Ocean Literacy means for our continent and what people should know of the ocean to make informed and responsible decisions need to be debated. The position paper underlines the importance of understanding what people know, want to know and should know about the ocean. Through public surveys and meetings between European ocean scientists and educators, the aim is to agree upon overall essential principles, based upon those prepared in the US.

A major concern is that the diversity in languages, educational systems and ways of living with the sea across Europe will complicate the implementation of a future European Ocean Literacy plan. National characteristics and issues do not tell us all

we need to know about the seas as a global system connected by shifting winds, seasonal currents and migrating species. Some issues addressed are similar at European or global level. This is where EMSEA steps in. Through EMSEA, European countries have the opportunity to define the purpose of ocean education for their economic and scientific challenges, and find ways to collaborate on ocean issues and stimulate a science curriculum reform.

As a pioneer in Europe, Portugal has made a concerted effort to place Ocean Literacy on the map for its science teachers. The Portuguese National Agency for Scientific and Technological Culture, *Ciência Viva*, launched in 2011 a version of the Ocean Literacy principles adapted to the Portuguese reality, linked to the Portuguese science curriculum: 'Conhecer o Oceano: Princípios Essenciais e Conceitos Fundamentais' ('Knowing the Ocean: Essential Principles and Fundamental Concepts'). This effort certainly serves as an example and inspiration for other European countries.

The First Conference in Europe on Ocean Literacy (12 October 2012, Bruges, Belgium) brought together scientists, experts, educators and policy makers to explore how Ocean Literacy can improve the future of European seas. Highlighting the lack of ocean-related content in formal science education the conference emphasized how marine education projects and informal education efforts (e.g. aquaria, science centres, museums, NGOs etc.) were by necessity paving the way to more public involvement and active participation. There is no doubt the conference has been an important milestone in developing an ocean literate society in Europe. It has been critical in raising the profile of Ocean Literacy with European policy makers, notably with the European Commission DG Research and Innovation. The inclusion of Ocean Literacy as one of the themes for greater trans-Atlantic collaboration in the EU's Transatlantic Galway Declaration (24 May 2013) is clear evidence of major progress

in this area. At the request of the European Commission a group of ocean education experts will deliver recommendations to the European Commission DG Research and Innovation on mechanisms and initiatives to better support marine science outreach and education in the Horizon 2020 Programme and beyond.

It is clear that the promotion of Ocean Literacy is still in its infancy in Europe. However, the resources are available, and EMSEA will make sure that these (often local) initiatives will be highlighted and promoted. Together these efforts will be the start of a more ocean literate Europe. Investing in Ocean Literacy on a European and global scale will no doubt have considerable currency for many years to come.

If this article sparked your interest, we will be honoured to welcome you at the next EMSEA conference which will be hosted by the Marine Biological Association on 3–5 September 2013 in Plymouth, UK.

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FURTHER READING

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Participants at the first European Conference on Ocean Literacy. Image: VLIZ (Hertz).