Coastal and Ocean Literacy in North America

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OUTLINE

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• Ocean Literacy Networks

• Ocean Literacy Initiatives in the USA
• Ocean Literacy Initiatives in Canada

• Conclusion
Ocean Literacy Audiences

K-12 – Primary to Secondary School students and teachers

University students

University teachers

http://oceanliteracy.wp2.coexploration.org/ocean-literacy-framework/
Ocean Literacy Audiences

- Professional staff without ocean related knowledge
- Politicians
- Decision-makers
- Citizens
- General Public
- Interested Public

Coastal and Ocean Literacy in North America
Ocean Literacy Networks
USA

Centers for Ocean Sciences Education Excellence (COSEE)
http://www.cosee.net

• An international non-profit network of ocean scientists and educators working together to transform ocean sciences education.
• The go-to resource for ocean scientists working with ocean science educators.
Ocean Literacy Networks
USA

Centers for Ocean Sciences Education Excellence (COSEE)

• Creating/Supporting Professional Networks
• Graduate Student Professional Development
• Online Scientist Presentations
• Online Tools and Interactives
• Professional Development for Scientists
• Scientist and Educator Collaboration
• Scientist Talks and Podcasts
• Teacher Research Experiences
Ocean Literacy Networks
USA

http://www.marine-ed.org/

- Annual Conference
- Newsletter
- International support
Ocean Literacy Networks
Canada

Canadian Network for Ocean Education

http://oceanliteracy.ca

• CaNOE provides a platform for learning, dialogue and communication about ocean literacy in Canada.
• For the advancement of ocean literacy in Canada.
• SplashMail Newsletter
• Biennial Conference: 2018 St. John’s, Newfoundland and Labrador
The Galway Statement on Atlantic Ocean Cooperation

“We intend to show how results from ocean science and observation address pressing needs of our citizens, environment and the world and foster understanding of the value of the Atlantic Ocean.”

Signed in Galway on 24 May 2013 in three originals in the English language.

For the European Union

Máire GEGHIEGAN-QUINN
Commissioner for Research, Innovation and Science

For the Government of Canada

Edward FAST
Minister of International Trade and Minister for the Asia-Pacific Gateway

For the Government of the United States of America

Dr Kerri-Ann JONES
Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs

Maria DAMANAKI
Commissioner for Maritime Affairs and Fisheries

Ocean Literacy Working Group
Ocean Literacy Transatlantic Implementation Strategy

https://www.atlanticresource.org/aora/
Selected Ocean Literacy Initiatives: USA

- Collections of resources, lesson plans and multimedia on seven ocean themes
- Bay Watershed Education and Training (B-WET)
  - [http://www.noaa.gov/office-education/bwet](http://www.noaa.gov/office-education/bwet)
- The Marine Debris Monitoring Toolkit for Educators
Selected Ocean Literacy Initiatives: USA

https://coast.noaa.gov/digitalcoast/

• Scheduled classroom and on-line instructor led training
  • e.g. Facilitation Basics for Coastal Managers
• On demand products
  • e.g. videos and webinars
• Links to additional training resources from other organizations
  • e.g. National Disaster Preparedness Training Center (NDPTC)
Selected Ocean Literacy Initiatives: USA

Using Real Data
The integration of real world data into classroom instruction is a powerful means to increase student interest and understanding of concepts. U.S. IOOS provides this real observation data for use in education.

https://ioos.noaa.gov/community/education/
Selected Ocean Literacy Initiatives: USA

http://mare.lawrencehallofscience.org/

- Curriculum
  - e.g. MARE Teachers Guides to Marine Habitats, MARE Ocean Immersions
- Professional Development
  - K-12, Parents as Partners, Reflecting on Practice, Scientists in policy and teaching

Next Generation Science Standards (NGSS)
Selected Ocean Literacy Initiatives: USA

Smithsonian
http://ocean.si.edu/educators

http://www.whoi.edu/main/k-12
Selected Ocean Literacy Initiatives: Canada

Fisheries and Oceans Canada

Science Enterprise Centres

**Canadian Ocean Priorities** include education and public engagement to provide future generations of Canadians with skilled professionals who can lead custodial management and public discourse in Canada about the ocean. Such professionals are needed to take the knowledge outputs across all priority areas and make them accessible in a way that improves Canadians understanding of the ocean's influence on their daily lives and their influence on the ocean. This outcome speaks directly to the need to improve literacy about oceans issues.

**Compose a stream song**

Selected Ocean Literacy Initiatives: Canada

Social Sciences and Humanities Research Council

http://www.sshrc-crsh.gc.ca

Storyteller Contest

Knowledge Mobilization

informs:
• public debate; policies; and/or practice;
• enhances/improves services; and/or
• informs the decisions and/or processes of people in business, government, the media, practitioner communities and civil society.
Selected Ocean Literacy Initiatives: Canada

http://www.oceannetworks.ca

Ocean Sense
Community-Based Observatory Education Program

Teachers' Guide

Educator Resources: Middle School to Undergraduate

Shouting Whales
Selected Ocean Literacy Initiatives: Canada

http://www.oceannetworks.ca

Observatories

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Selected Ocean Literacy Initiatives: Canada

http://www.oceannetworks.ca

Digital Fishers

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Selected Ocean Literacy Initiatives: Canada

Ocean School

A ground breaking audiovisual learning initiative that:

- Fosters an ocean connection
- Sparks innovation
- Makes learning relevant

www.oceanschool.ca
Selected Ocean Literacy Initiatives: Canada

Examples of Expeditions
• C3 – Coast to Coast to Coast [https://canadac3.ca/en/homepage/](https://canadac3.ca/en/homepage/)
• Students on Ice [https://studentsonice.com/](https://studentsonice.com/)

Arctic Expedition 2018
July 23 – August 7, 2018
Selected Ocean Literacy Initiatives: Canada

http://olp.oceansnl.net/

Educational cruises immerse students in the world of ocean science and technology onboard our vessels

Oceans Live: Classroom exposure to real time data and video

Teachers At Sea: Field workshops and a Summer Teachers Institute
Selected Ocean Literacy Initiatives: Canada

https://ocean.org/

Mobile exhibits

http://www.vanaqua.org/

On Line Learning: 1956 – 2016: 3,043,998 participants
Selected Ocean Literacy Initiatives: Canada

Citizen Science / Community NGOs

- Watershed Wisdom
  - [Website](http://coastalaction.org)

- BioBlitz
  - [Website](http://bioblitzcanada.ca)

- Canadian aquatic biomonitoring network (CABIN)
  - [Website](http://www.ec.gc.ca/rcba-cabin/)
Ocean Literacy Programs:
Recommended Development Approach (after Stakler)

1. Identify the most urgent needs to set overarching goals
2. Clarify target audience (be specific!)
3. Determine key messages
4. Design delivery strategy & metrics
5. Deliver, measure, learn, and ITERATE

CONSULT EXPERTS & TARGET AUDIENCES
Ocean Literacy Programs:
Additional Recommendations (after Stakler)

• Acknowledge and integrate the **cultural and social role of the ocean** to your target audience in your materials

• Ocean literacy priorities and context differ among regions and countries – identifying common threads will improve uptake

• Be mindful of technology accessibility, language needs, and other parameters that will impact who can use your materials

• Ensure there is marketing expertise and budget built into your program!
The Ocean Literacy Challenge
Many people and lots of geography “not connected” to the ocean