2019 Global Ocean Science Education (GOSE) Workshop
November 13-15
American Society of Civil Engineers Bechtel Conference Center
Reston, VA

Conducted by
COSEE and College of Exploration in Partnership with the
Atlantic Ocean Research Alliance and the Seabed 2030 Project

AGENDA

The 2019 GOSE Workshop Goals are to:
1. explore the importance of ocean observations and seabed mapping to society;
2. identify strategies and activities to support the United Nations Decade of Ocean Science for Sustainable Development; and
3. identify strategies to train and support business and industry partners for enhancement of the Blue Economy.

Objectives:
• Bringing together the ocean science, education, policy, and business/industry sectors
• Integrating seabed mapping and ocean observing research results into education resources for enhanced global societal ocean literacy, decision making, and sustainable development
• Identifying industry needs for education opportunities of the existing marine-related workforce

WEDNESDAY, November 13, 2019
9:00 Welcome and Introductions
Gail Scowcroft, Graduate School of Oceanography, University of Rhode Island
Peter Tuddenham, College of Exploration
Ivan Conesa-Alcolea, European Commission

9:15 Workshop Goals and Overview (Gail Scowcroft and Peter Tuddenham)

9:30 Plenary I: Overview of UN Decade of Ocean Science for Sustainable Development
Craig McLean, National Oceanic and Atmospheric Administration and Executive Planning Group, UN Decade

10:00 Plenary II: Ocean Literacy for the Decade
Francesca Santoro, Intergovernmental Oceanographic Commission

10:20 Coffee Break

Why Do We Need Ocean Observation?

10:40 Panel I: Importance of Ocean Observing for Society and Related Education Activities
Moderator: Ana Noronha, Ciencia Viva
Panelists:
Dina Eparkhina, European Global Ocean Observing System
Frank Mueller-Karger, University of South Florida
Kaitlin Noyes, Bermuda Institute of Ocean Sciences

11:15 **Plenary III: Global Ocean Observing System 2030 Strategy Report**
Joaquín Tintoré Subirana, Balearic Islands Coastal Observing System

11:40 **Breakout Group I: Integrating Ocean Observation into Ocean Education/Ocean Literacy Initiatives**
Example Discussion Topics:
A. Using ocean observing data in programs for museum and aquarium audiences during the Decade
B. Using ocean observing data in K-12 science
C. Using ocean observing data in social science and humanities
D. Currently available ocean observation resources and materials
E. Using the media and social media to highlight ocean observation initiatives

12:20 **Breakout Group I Reports**

12:40 **Lunch**

**Why Do We Need Seabed Mapping?**

13:20 **Panel II: Importance of Seabed Mapping for Society and Related Education Activities**
Moderator: Paula Keener, Global Ocean Visions
Panelists:
Gordon Johnston, International Federation of Surveyors and AORA
Tommy Furey, Marine Institute, Ireland
Laura Brothers, U.S. Geological Survey
Nicola Bridge, National Marine Aquarium (UK) and European Marine Science Educators Association
Robert Pani Pilla, Friends of Marine Life

14:10 **Plenary IV: Seabed 2030 Report**
Vicki Ferrini, Lamont-Doherty Earth Observatory and Seabed 2030 Project

14:30 **Breakout Group II: Integrating Seabed Mapping into Ocean Education/Ocean Literacy Initiatives**
Example Discussion Topics:
A. Using seabed mapping and bathymetry products in programs for museum and aquarium audiences during the Decade
B. Using seabed mapping and bathymetry products in K-12 science
C. Using seabed mapping and bathymetry products in social science and humanities
D. Currently available seabed mapping resources and materials
E. Using the media and social media to highlight Seabed 2030 and other mapping initiatives

15:10 Breakout Group II Reports
15:25 Coffee Break
15:45 Plenary VI: Strategies for the Engagement of Business and Industry
   Michael Jones, TMA BlueTech™
16:10 Working groups on seabed mapping and ocean observing meet to discuss breakout
group actions and formalize plans for implementation during the Decade
16:50 Working Group Reports
17:10 Lightning Round I: Student Presentations
   Moderator: Nicola Bridge, National Marine Aquarium and EMSEA
   Presenters:
   Emiliano Gonzalez Santin, Ulster University
   Maria Pontiki, University of Delaware
   Bianca Prohaska, Florida State University and AORA U.S. Ambassador
   Jaya Roperez, Center for Coastal and Ocean Mapping
   Alicia Wilson, University of Georgia and AORA U.S. Ambassador
17:45 Short Film
   Ana Noronha, Ciencia Viva
18:00 Adjourn, buses leave for dinner venue
18:15 Group Dinner

THURSDAY, November 14, 2019
9:00 Welcome and Review

Ocean Literacy and Ocean Science Education in Support of the Blue Economy

9:15 Plenary V: Ocean Literacy, Knowledge Transfer, and Career Development for a
   Sustainable Blue Economy
   Mary Kavanagh, Minister-Counselor, Research and Innovation, Delegation of the
   European Union to the U.S.

9:40 Panel III: Blue Economy, Emerging Marine-Related Technologies, and Education Needs
   Moderator: Peter Tuddenham, College of Exploration
   Presenters:
Coffee Break

Breakout Group III: Strategies to Educate the Marine-related Workforce; A Certificate Program for Business and Industry
Example Discussion Topics:
A. Using national and international networks to engage the blue economy business community during the Decade
B. How can business and industry support ocean science education during the Decade?
C. How can the ocean science education community support the blue economy?
D. What kinds of ocean science education opportunities do businesses need?

Breakout Group III Reports

Large Group Discussion I: Development of Education Opportunities for the Existing Marine-Related Workforce

Lunch

Breakout Group IV: Regional Groups Develop Outreach Plans for Implementing Education Opportunities for Business and Industry in Their Regions During the Decade (or breakout by topic area)

Breakout Group IV Reports

Lightning Round II: Early Career Professional Presentations
Moderator: Tara Donaghy, Fisheries and Oceans Canada
Presenters:
Katie Geddes, NOAA
Tinah Martin, Lamont Doherty Earth Observatory
Willem De Moor, JPI Oceans
Chris Sivert, Moffatt & Nichol

Coffee Break

Breakout Group V: Regional Groups Develop Collaborative Activities for the Decade continued (groups can also breakout by ocean science themes)
15:50  Breakout Group V Report Out
16:20  Introduction to Open Space Session
16:35  Short Film
       Thomas Chase, American Society of Civil Engineers
16:50  Adjourn

FRIDAY, November 15, 2019

9:00  Welcome and Review
9:15  Open Space Session – Furthering the Goals of the Global Ocean Science Community
      (Examples: one group could focus on the certificate program for business and industry,
       another could focus on activities for the Decade)
10:15 Coffee Break
10:35 Open Space Continues
11:10 Open Space Group Reports
11:25 Large Group Discussion – Reflection on 2019 GOSE Workshop and Ideas for 2020
11:40 Plenary VII: Importance of Ocean Science Education in Support of the UN Decade of
      Ocean Science for Sustainable Development
      Margaret Leinen, Scripps Institution of Oceanography and Executive Planning
      Group UN Decade
12:05 Box Lunch for Travelers