

# COBRA Opportunities for Connecting Early-Career Deep-Sea Professionals with Opportunities for Training and Networking

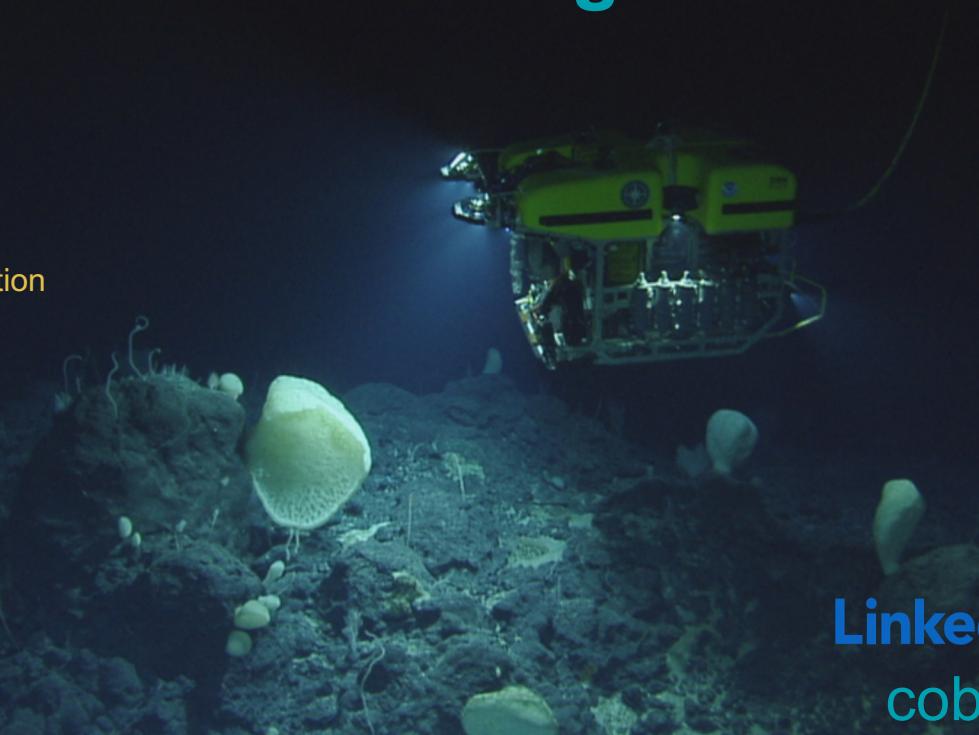
**Julie Huber**

COBRA Director

Woods Hole Oceanographic Institution



Photo: Ocean Exploration Trust | NOAA



**LinkedIn**

[cobra.bigelow.org](http://cobra.bigelow.org)



# What is COBRA ?

**COBRA**  
CRUSTAL OCEAN BIOSPHERE  
RESEARCH ACCELERATOR

## Accelerating Research of the Deep Sea to Inform Decision Making

COBRA is an **international network-of-networks** with a mission to accelerate research of the crustal ocean biosphere to inform decision making while training the next generation



**Sign up for our  
monthly newsletter!**

**Geoff  
Wheat**

**Andy  
Fisher**

**Randi  
Rotjan**

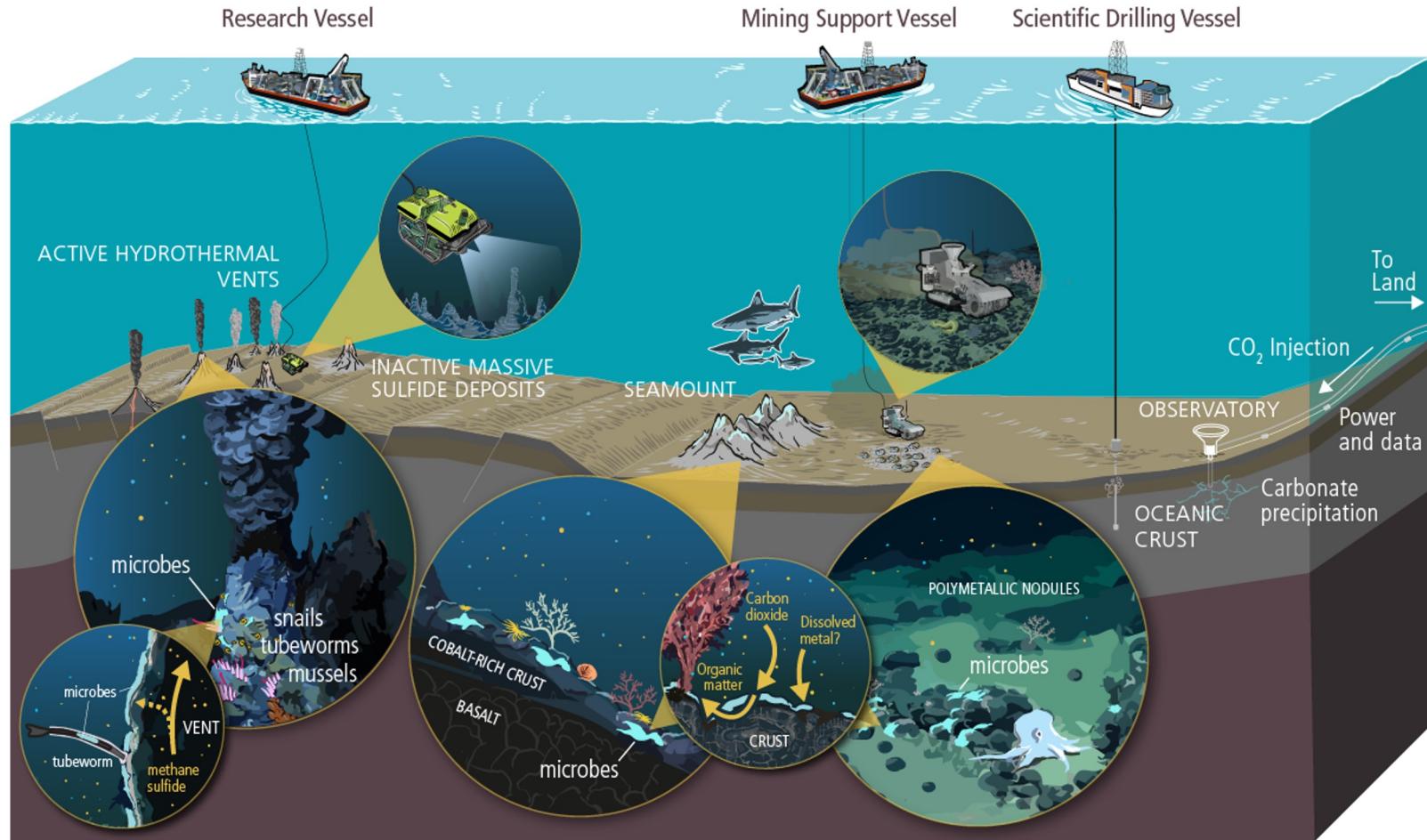
**Beth  
Orcutt**

**Rosalynn  
Sylvan**



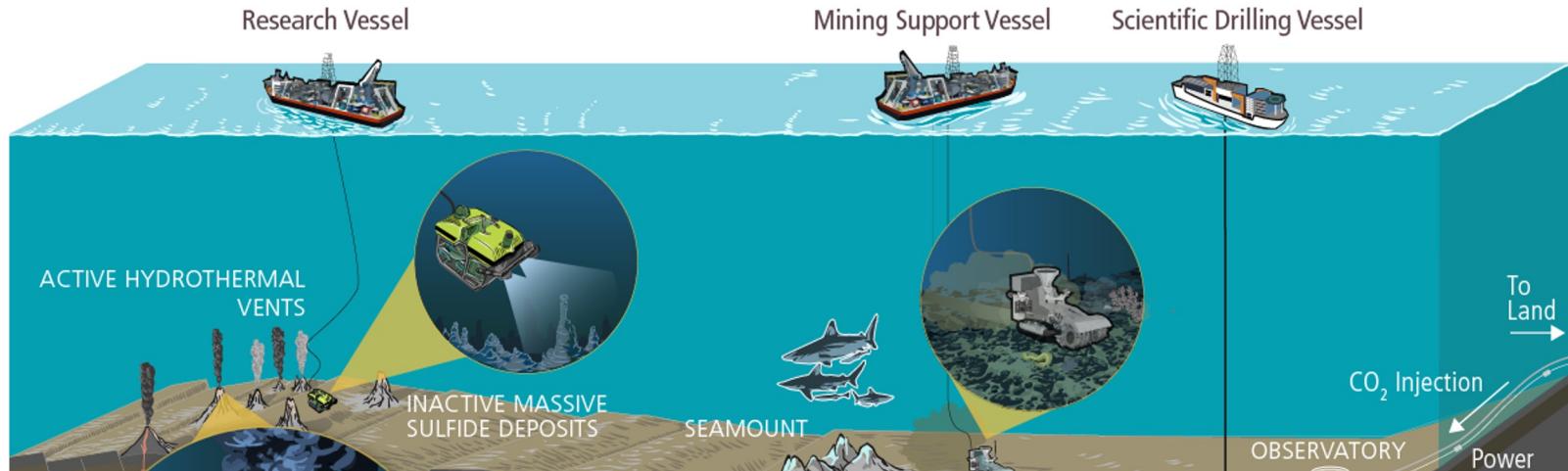
# The Crustal Ocean Biosphere and Emerging Human Activities in the Deep Sea

Credit: Orcutt et al. (2020) Open Science Foundation

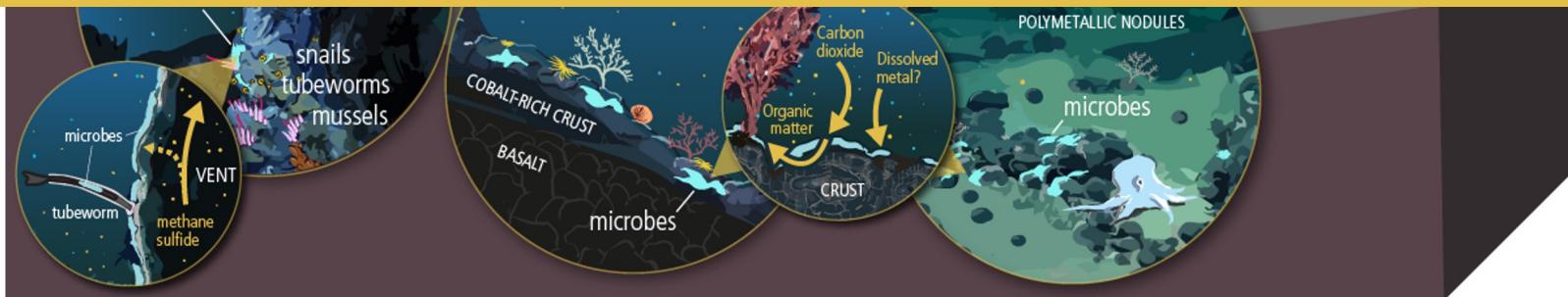


# The Crustal Ocean Biosphere and Emerging Human Activities in the Deep Sea

Science Foundation



We need more eyes on the seafloor!



Credit: Orcutt et al. (

# COBRA Partners

**COBRA**  
CRUSTAL OCEAN BIOSPHERE  
RESEARCH ACCELERATOR



Center for Research, Excellence, and Diversity in  
**TEAMSCIENCE**

**DOSI**  
DEEP-OCEAN STEWARDSHIP INITIATIVE

Minerals Working Group

**iDOOS**

**marum**  
Research Faculty  
University of Bremen

**OCEAN  
DISCOVERY  
LEAGUE**

OCEAN EXPLORATION COOPERATIVE INSTITUTE  
**oeci**  
EXPLORING THE NATION'S BLUE FRONTIER

**NAUTILUS LIVE**  
OCEAN EXPLORATION TRUST

OCEAN  
NETWORKS  
CANADA

**SCHMIDT  
OCEAN  
INSTITUTE**



UNIVERSITY OF BERGEN

Center for Geomicrobiology

**USGS**  
science for a changing world

Global Marine Minerals Project



[cobra.bigelow.org](http://cobra.bigelow.org)

# Opportunities for ECOPs

## ACTIVITIES

### CO-ORDINATION

Catalyze collaborations

### ACCELERATION

Fill knowledge gaps

### TRANSLATION

Bringing findings to policy  
makers, industry, & the public

### EDUCATION

Training next generation in  
deep-sea expedition leadership

**Train the next generation of ocean  
exploration, science, and policy leaders**

- Training in expedition leadership
- Recruit ECOPs into leadership positions
- Webinars (1<sup>st</sup> Tuesdays) and workshops
- Open access training materials
- **Accelerator award for research  
exchanges and other training  
activities**

# COBRA Early Career Accelerator Award

For ECOPs to gain new skills and experiences that can be applied to COBRA themes to result in a more well-connected community and development of future COBRA researchers and leaders



Rolling Call!



# COBRA Early Career Accelerator Award

For ECOPs to gain new skills and experiences that can be applied to COBRA themes to result in a more well-connected community and development of future COBRA researchers and leaders

**Accelerator awards of US\$2,500 are available for training opportunities tied to a US-based organization or activity; *via stipend costs for participants based at US institutions or eligible travel costs for participants based at non-US institutions***



Rolling Call!



# Early Career Deep-Sea Expedition Leadership Master Class and Fellowship



# What is the COBRA Master Class?

## GOAL

to empower early career ocean professionals\*  
with the **skills and tools** to successfully  
design, propose, and execute  
collaborative deep-sea oceanographic research that  
informs policy making

\*ECOP = senior graduate students, postdocs, junior faculty & professionals



What do I need to  
know to be the  
Chief Scientist ??

COBRA = we want to demystify this !!

# What is the COBRA Master Class?

## GOAL

By the end of the course, you feel prepared to write expedition proposals and lead a deep-sea expedition !!!

# What is the COBRA Master Class?

## HOW

12 week (mostly) **virtual training program\***  
(2 hour weekly meeting + study)  
where participants learn from  
diverse global experts  
how to plan and run an inclusive expedition  
from start to finish

# The 2026 COBRA Master Class

- >100 applicants every year; 12 participants selected from a qualified pool
- 5 instructors (COBRA Cols) + some guests
- Use Slack & Class notes for organization + asynchronous communication
  - Usually pre-class activities (videos, articles, etc.)
  - Lectures & breakouts in class activities (live on Zoom, 2 hrs/week)

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  - Lectures & breakouts in class activities (live on Zoom, 2 hrs/week)
- Participants work on a “Dream Cruise” project throughout the course, building on the topics covered
- Participants are named “COBRA Fellows” which enables other leadership opportunities

# COBRA 2026 Master Class Topics

## Week - Topic

Week 1 - Knowing What Ships & Assets are Available

Week 2 - Understanding Team Science

Week 3 - Finding Funding & Writing Proposals

Week 4 - Planning the Cruise & Permitting

Week 5 - Respectful Concept Development

Week 6 - Managing Operations at Sea

**OCEAN SCIENCES MEETING**

# COBRA 2026 Master Class Topics

## Week - Topic

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## OCEAN SCIENCES MEETING

Week 7 - Dream Cruise Check-in

Week 8 - Data Introduction

Week 9 – DMP to Cruise Report

Week 10 – Outreach & Unwritten Rules

Week 11 – Ocean Law & Policy

Week 12/13 – At Bigelow: Wrap Up & Dream Cruise Presentations!

# COBRA Master Class Topics

Week 5: At-Sea Operations

## Class Plan & Materials

- Hour 1
  - 10 min: All Group Q&A discussion: What was something new that you learned from watching the videos?
  - 30 min: Lecture Part 1: Mobilization, Planning, & Dives
  - 5 min: All Group Activity - review [Jason Virtual Van](#)
  - 10 min: Q&A on part 1 topics
  - 5 min: Break
- Hour 2
  - 30 min: Lecture Part 2: Reports, Demobilization, Contingencies, & Morale
  - 25 min: Open discussion/Q&A
  - 5 min: Wrap up, prep for next week

## Additional Resources



[Example Cruise Report\\_Wheat\\_AT26-09.pdf](#)

1 MB



# Master Class “Dream Cruise” !

## **Title of Project**

### **Big Picture Statement of the Problem**

What do you want to do? Where (region/ocean basin)? And why is it important?



### **Objectives:**

1. Objective 1 [Develop further in Week 3]
2. Objective 2 [Develop further in Week 5]
3. Objective 3 [Develop further in Week 7]

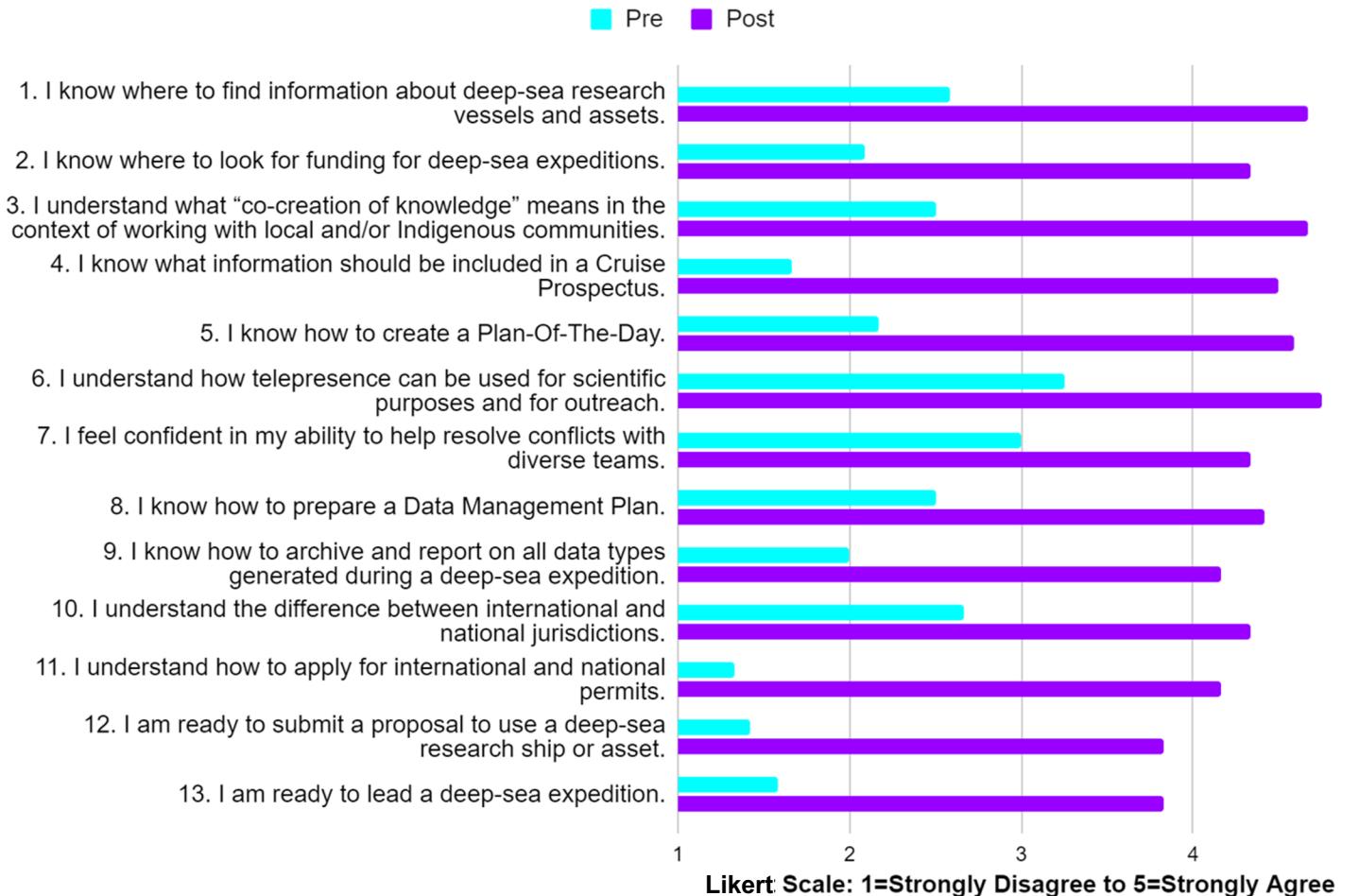
### **What type of assets are required?**

Ship (coastal, regional, global class)? Deep submergence vehicles (submersible, ROV, AUV)? CTD? Coring? Other tools (camera, etc.)?

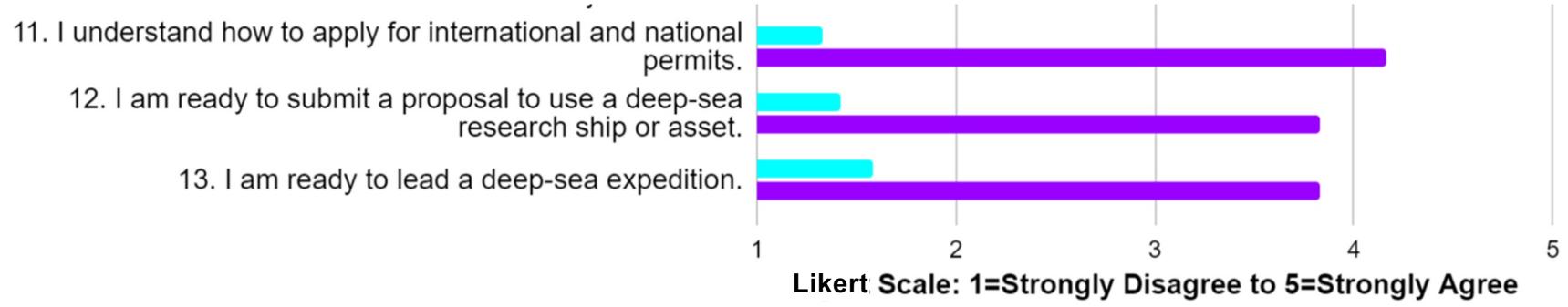
### **Who do you need on your team?**

List the kinds of people you need on your team: biologists? chemists? engineers? Do you need people with specific expertise? Do you want space for interns/trainees? Do you need scientists ashore to participate? Considering the area you want to conduct your research, does your team include researchers from that nation/region?

# Pre- & Post-Class Assessments



# Pre- & Post-Class Assessments



***Big shifts in the confidence of participants to be expedition leaders***

## COMMUNITY CASE STUDY article

Front. Mar. Sci., 06 October 2023

Sec. Ocean Observation

Volume 10 - 2023 | <https://doi.org/10.3389/fmars.2023.1223197>

This article is part of the Research Topic

Advances in Ocean Exploration

[View all 9 Articles >](#)

# COBRA Master Class: Providing deep-sea expedition leadership training to accelerate early career advancement

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# Manual- Coming Soon!

## Operationalizing deep-sea expedition leadership: A COBRA manual for aspiring chief scientists

Rotjan, R.D., R. Sylvan, J. Weston, R. Shomberg, K.A. Barnhill, L. Van Audenhaege, K. Croff-Bell, A. Fisher, G. Wheat, B. Orcutt, and J. Huber. *With contributions from COBRA Fellows Classes of 2022-24.*

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Log Entries and Sample Names  
Conclusion

# COBRA Master Class Materials

Protected: 2025 Master Class  
Week 4: Cruise Preparation



2025 MASTER CLASS OVERVIEW

Last Week | 4 February 2025 | Next Week

Overview

Being a chief/lead scientist is a big responsibility, but it is made easier by planning ahead and breaking up tasks and deadlines into smaller and

Class Slides



COBRA  
CROSS-OCEAN BIOLOGICAL  
RESEARCH ACCELERATOR

Google Slides

- Archive of 2025 Master Class weekly training materials available
  - Overview
  - Goals
  - Pre-Class Activities
  - Class Plan
  - Additional Resources
  - Class Slides
  - Post-Class Dream Cruise Project Development
- Email [cobra@bigelow.org](mailto:cobra@bigelow.org) to request access to the password-protected site