

Recent and Continuing FIC business

Last FIC meeting: 13 MAY 2021

The FIC will track RCRV sea trials and science verification exercises.

The FIC will track user experiences after the mid-life refits of the Revelle and Atlantis via PCARs.

There is FIC representation in community discussions regarding provisions for marine seismic capabilities, and planning for US ships which may be used for research in polar regions.

The FIC is examining telepresence and cybersecurity/infrastructure recommendations, ARF recapitalization and relation to the coastal and local vessels, and complex operations from ships, e.g. combining small boats, airborne vehicles, AUVs, etc.

The UNOLS Office continues to adjust fleet projected service life end dates and optimal usage definitions.

Development of Science Mission Requirements for the Next Generation of Global Class Research Ships

FIC Subcommittee, chair G. Cutter (ODU)

Tasks Completed

- Examine existing/previous SMR reports
- Gather information on international Global-class-like fleet
- Survey community plus Global class users, operators, captains, & techs
- Draft SMR document
- Refine and complete the draft document

Tasks to be Completed Soon

- Circulate the document to the UNOLS Council [presently at this stage]
- On approval, distribute and post the SMR document

Future Tasks

- Revisit the SMR document ca. every three years, treating it as a "living" document



MERAS

(Maintaining an Environment of Respect Aboard Ships)

Committee Members

- Mark Brzenzinski, UCSB Chair
- Emily Shimada, OSU Vice-Chair
- Craig Lee, UW Member
- Dennis Hansell, RSMAS Ex Officio, UNOLS Chair
- Catherine Smith, IODP, Member
- Kay McMonigal, NCSU Member
- Hannah Delapp, UNOLS Ship Scheduling Committee-Rep (and SIO Staff)

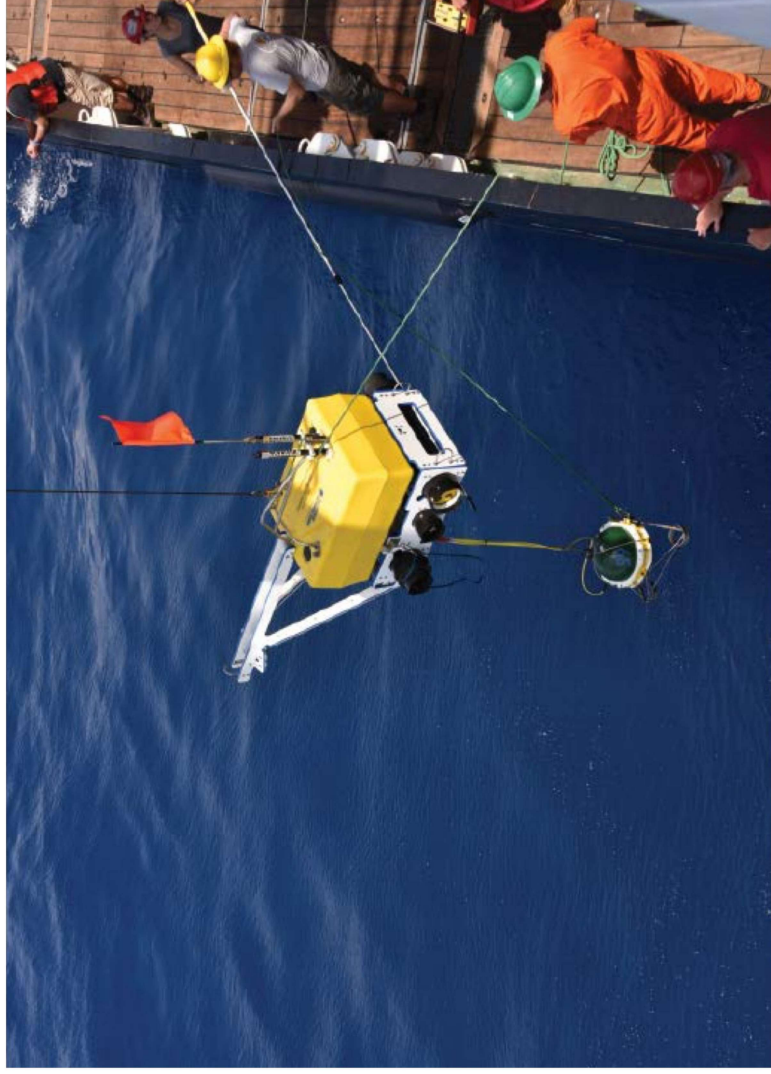
- **Module II viewing guide and language translations**
- **Pregnancy policy updates**
- **Gender expression and name-in-use on Cruise Planner**
- **Newsletter and social media platforms for communicating topics and resources for reflection**
- **Committee message of support to our community**

MSROC Report

Marine Seismology Research Operations Committee

JOHN ORCUTT, CHAIR. 28 MAY 2021

Mantle Transition Zone



A research team deployed 39 seismometers at sites around the equatorial Mid-Atlantic Ridge. Credit: University of Southampton

At the outset, the team hoped to find clues about the origins of the lithosphere. “But the quality of the data was so rich—very high quality seismic data—that it gave us the ability to zoom in deeper,” said Agius. Using P-to-S receiver functions on the seismic data beneath the stations, the team could image the MTZ, the boundary between the lower and the upper mantle, between 410 and 660 kilometers deep.

200 new OBSSs - Newest OBSSs are 14 years old



NSF Mid-Scale Research Infrastructure



Scientific Committee for Oceanographic Aircraft Research UNOLS SCOAR

Report to the UNOLS Council

Luc Lenain

Scripps Institution of Oceanography, San Diego, CA



A new format during COVID: UNOLS SCOAR bimonthly webinars

- CIRPAS update
- Review of Covid 19 impact on airborne research - COVID procedures/mitigations
- Federal agency updates (NOAA, USCG, NASA ASP etc.) and science presentation from various research institutions (UAF, RSMAS, TAMU).

Keeping a balance between *unmanned* and *piloted* aircraft research expertise

SCOAR Members

Name	Institution	Role	Rep Of	Term Start	Term End
Dr. Luc Lenain	SIO	Chair		2015-04-01	Apr 2021
Dr. Roni Avissar	Miami	Member		2020-11-01	Nov 2026
Dr. Christopher Zappa	LDEO	Member		2015-09-01	Sep 2021
Dr. Britton Stephens	NCAR	Member		2019-04-01	Apr 2022

Dr. Michael Starek	TAMU	Member
Dr. Hanumat Singh	NEU	Member
Andrew Woogen	OSU	Committee-Rep
Dr. Debbie Bronk	Bigelow	Ex-Officio
Dr. Dennis Hansell	RSMAS	Ex-Officio
Anthony Bucholtz	NPS	Ex-Officio

2011 SCOAR March Monthly Meeting and

Call for Nominations!

SCOAR had its annual meeting on March 14, 2011. The meeting featured presentations on COVID impacts to air operations and updates from IALAS, the NOAA Hurricane Division, and NPS OASAS facility. The presentation slides can be found [here](#).

The UNOLS Scientific Committee for Oceanographic Aircraft Research (SCOAR) is seeking representatives and nominations to fill the Chair position that will open in Fall 2021. Experience with the use of aircraft (piloted or un-piloted) or coordinating the use of aircraft with other marine facilities is vital research is highly desirable. In particular, individuals who are used at sea to use the aircraft facilities that are part of the Navy's Center for Interdisciplinary University-Naval Aircraft Studies (CIUAS) and/or other academic/oceanographic airborne platforms funded by UNOLS institutions or government agencies are desired. More information can be found [here](#).

DeSSC report May, 2021 UNOLS Council Meeting

- DeSSC membership
- NDSF vehicle updates
- Other activities



DeSSC Membership

Current members

Roxanne Beinart (*URI*), *Friend of Alvin*

David Caress (*MBARI*)

Brian Glazer (*Univ. Hawaii*)

Leila Hamdan (*Univ S Miss*)

Jeff Marlow (*Boston U*)

Anna-Louise Reysenbach, Chair (*Portland State U*)

Andrew Thurber (*OSU*), *Friend of Jason*

Dorsey Wanless (*Boise State U*), *Vice Chair DeSSC*

Scott White (*Univ, SC*), *Friend of Sentry*

Peter Girguis, (*ex-officio, Harvard*)

Rob Munier (*ex-officio, WHOI*)

Tim Shank (*ex-officio, WHOI*)

Adam Soule (*ex-officio, WHOI*)

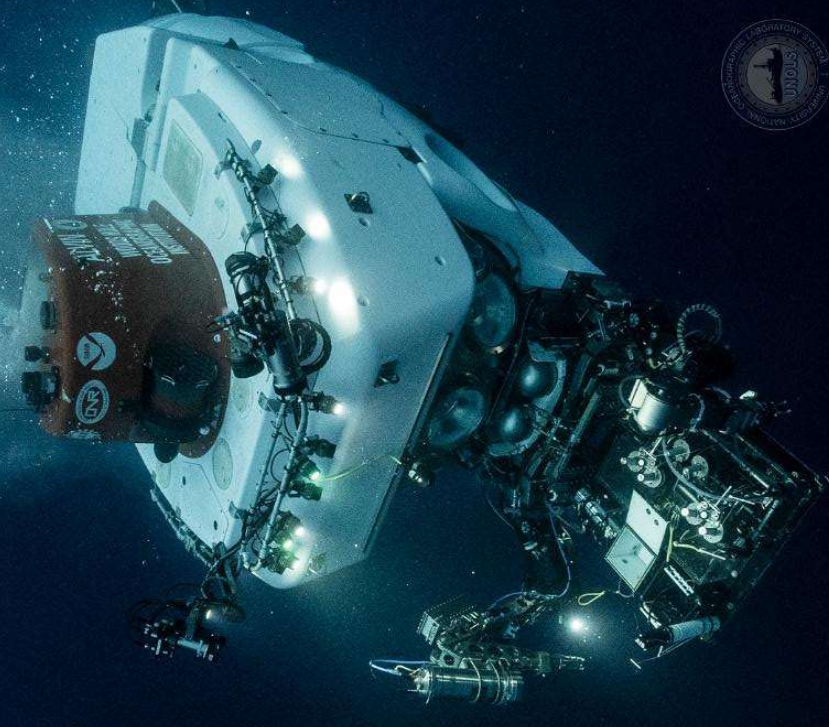
Expanding Deep Sea Horizons: Scientific Priorities in Abyssal Research

Alvin overhaul...

NDSF- Evan Kovacs Imagery training

NDSF

Woods Hole
Oceanographic
INSTITUTION



ROV Jason

- **3 cruises completed**
 - Kelley- RV Thompson
 - Single body, 24 Hour ops
 - 44 dives 10-1/2 days in water 2904 m
 - Miksis-Olds - RV Neil Armstrong
 - single body
 - Fornari/Arellano/Mullineaux -RV Thompson
 - 19 dives, 13+ days in water
- Lots of staffing changes- additions and losses
- Some highlights:
 - Telemetry replacement complete and fully successful
 - Propulsion upgrade proceeding
 - Sulis 4 k camera interface improved
 - Sentry Kongsberg EM 2040 tested successfully on Jason
 - Sea-log being used extensively, mostly positive feedback
 - Used Covid time for upgrades, maintenance etc.



Sentry

- Chadwick expedition in Nov 2020- some issues, but overall successful
- Successful expedition with Jason on the EPR- Fornari/Mullineaux/Arellano

- a new sidescan sonar

- continued great performance from recent move to the Kongsberg multibeam.

- Looking ahead: adding new sensor technology

- SyPRID for the Craig Young cruise about to leave Woods Hole, and integrating a methane sensor developed by Anna Michelle for her cruise in the fall.



Other Activities: Abyss workshops

Committee: Adam Soule, AL Reysenbach, Tim Shank, Jeff Marlow, Andreas Teske, Dorsey Wanless, Jeff Seewald, Bruce Strickrott, Rika Anderson


- Abyssal Plains & Seamounts
- Trenches & Transforms
- Technology & Societal Relevance
- DEI

NDSF NARRATIVE PRESENTATION | HOW/WHEN | ROYALSON | ADVENTURE | DATA | PLAN AN EXPEDITION | NEWS & MEDIA

Pre-Workshop Materials

Peter Auster, UConn

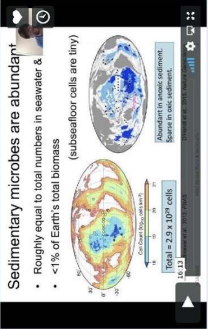
Seamounts ... where are they?



Steve D'Hondt, GSO URI

Sedimentary microbes are abundant!

- Roughly equal to total numbers in seawater &
- <1% of Earth's total biomass (subseafloor cells are tiny)



Jasper Konter, SOEST UH

Construction in Stages

Volcanic islands: map to structure

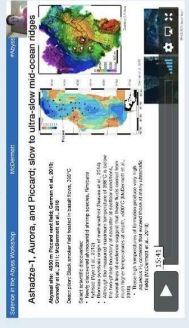
- Seamount structure: near geomorphology & geophysics
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Jill McDermott, Lehigh Univ

Alhazetti-1, Aurora, and Piccard: slow to ultra-slow mid-ocean ridges

Alhazetti-1, Aurora, and Piccard: slow to ultra-slow mid-ocean ridges



In Progress: “New Opportunities and Untapped Scientific Potential in the Abyssal Ocean”. For submission early June

Other activities:

- Alvin Science Verification Expedition (fall)
- Imagery user (new and old) skills workshop (s)
 - NDSF curriculum and led by Evan Kovacs from Marine Imaging Technologies
 - to teach the basics and fundamentals of capturing
 - high quality video and underwater stills. This will be largely based on video and stills
 - examples of actual film and science missions over the past few decades
 - Products: Short “how to” materials and videos

• New User meetings - AGU/ASLO

- Thanks!