



# 2023 UNOLS Onboarding

Updated 17 January 2023



# Outline

- UNOLS – what, why, how
- UNOLS – goals and vision statement
- UNOLS - as constituted today
- Charter statements
- UNOLS committees and office
- UNOLS vessels and facilities
- Fleet status and usage
- Council activities and other “hot topics”
- Outreach
- Funding agencies (who’s who)
- Available resources (equipment pools, etc.)



# What is UNOLS?

## University-National Oceanographic Laboratory System (UNOLS)

An organization of academic institutions (universities, National Labs, etc.) involved in oceanographic research joined for the purpose of coordinating oceanographic ships' schedules and research facilities.



## Why was UNOLS created?

- Investigators from non-operating institutions were struggling to get access to ship time.
- Federal Agencies were concerned over lack of coordination, increasing costs, differing modes of operations, lack of consistency within the vessels receiving funding from the federal institutions.
- Operators were concerned over higher ship costs and increasing ship numbers
- No centralized ship scheduling or coordination



## How was UNOLS formed?

- Stratton Commission Report (1969) recommended forming the National Oceanographic Laboratories (NOLS) to run the Academic Research Fleet.
- Operating Institutions agreed with goals, but opposed excessive federal control
- Worked out another approach with UNOLS
  - University control on community wide ship access
  - Cooperative ship scheduling
  - Standardized ship operations
  - Uniform funding arrangements



## How was UNOLS formed (cont.)

- UNOLS Charter officially adopted 1971
- Started with 17 Operating Institutions, 33 Ships with focus on
  - Ship Scheduling & Investigator Placement Procedures
  - Uniform cost accounting, cruise reporting, ship operations, data, safety
- Soon – non-operating institutions were brought in as members
- Responsibilities increased and UNOLS became engaged in
  - Fleet replacement
  - Developing science mission requirements and concept designs for new ships

A great narrative of the history of UNOLS is [here](#). Especially the chapter entitled “Two Years of Turbulence Leading to a Quarter Century of Cooperation: The Birth of UNOLS”



# UNOLS Goals

- Promote broad, coordinated access to oceanographic research facilities
- Support continuous improvement of existing facilities
- Plan for and foster support for the oceanographic facilities of the future



## UNOLS Vision Statement

**A healthy and vigorous United States research and education program in the ocean sciences with broad access to the best possible mix of modern, capable and well operated research vessels, aircraft, submersibles and other major shared-use facilities.**





# UNOLS Today

- UNOLS today is a consortium of 58 U.S. institutions
  - 14 operating institutions that operate:
    - 17 Research vessels
    - National Deep Submergence Facility
    - National Oceanographic Aircraft Facility
    - National Oceanographic Seismic Facility
  - Facilities are either owned by one of the Federal agencies (NSF, ONR) or by individual institutions.
  - Elected Council, 9 major committees and 2 sub-committees
  - UNOLS Office



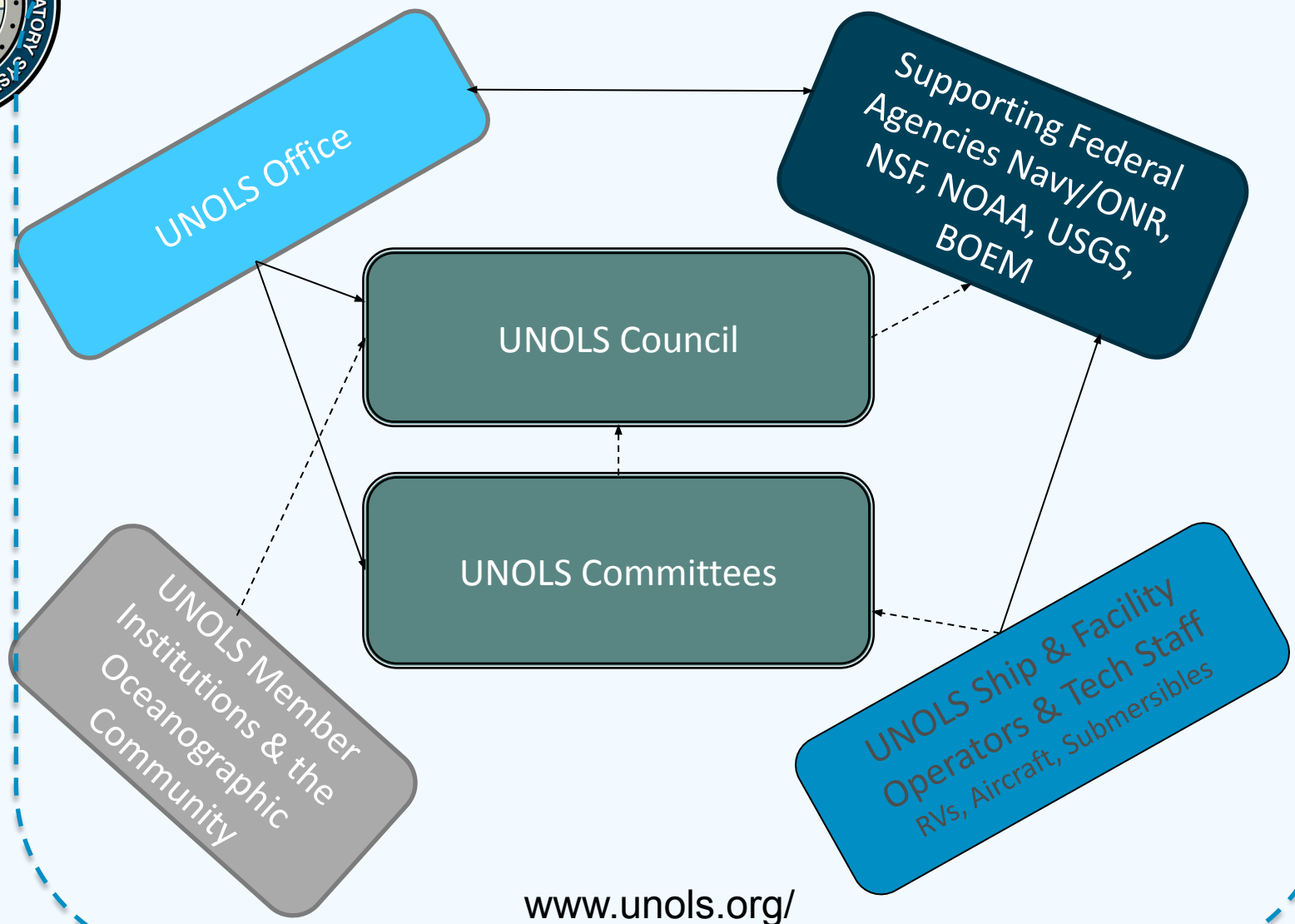
# UNOLS Members



Currently there are 58 member organizations within UNOLS. A directory of UNOLS Members can be found on the UNOLS website [here](#).



# UNOLS Community



[www.unols.org/](http://www.unols.org/)



# The UNOLS Charter

The entire Charter is found [here](#).

## Objective

- An objective of UNOLS is to coordinate and review the access to and utilization of facilities for academic oceanographic research, and the current match of facilities to the needs of academic oceanographic programs. UNOLS makes appropriate recommendations of priorities for replacing, modifying or improving the numbers and mix of facilities for the community of users. Another objective is to foster federal and other support for academic oceanography, thereby continuing and enhancing the excellence of this nation's oceanographic program. Emphasis is placed on ships and other seagoing facilities, but UNOLS also coordinates airborne assets used in oceanographic research.



# The Charter – key aspects

The entire Charter is found [here](#).

## Council:

- The UNOLS Council represents and acts on behalf of the UNOLS membership as the operating and governing body of UNOLS. It monitors UNOLS activities, giving attention to the effective use of available oceanographic facilities and determining the performance of UNOLS institutions in providing access to federally supported facilities for scientists from other institutions. It evaluates the need for replacement and additional facilities and assesses whether facilities are outmoded or in excess of current needs. It considers and makes recommendations to funding agencies regarding the needs for specialized facilities or new concepts in facilities and the balance between facilities and funded research programs. It accepts charges from funding agencies for special studies and reviews and shall make recommendations based on its findings. It assists funding agencies in efforts to obtain adequate and uniform financial data and post-cruise reporting of ship operations. It counsels in the formation of and appointments to UNOLS committees and provides oversight to them. The UNOLS Council shall fully and faithfully report to the UNOLS membership and to sponsoring agencies on its actions, activities and plans. Reports shall include an annual summary report delivered at the annual UNOLS meeting, reports of Council meetings and special reports on important actions or activities.



# UNOLS Committees

UNOLS Council

Ship Scheduling Committee (**SSC**)

RV Operators' Committee (**RVOC**)

RV Technical Enhancement Committee (**RVTEC**)

Fleet Improvement Committee (**FIC**)

Arctic Icebreaker Coordinating Committee (**AICC**)

Deep Submergence Science Committee (**DESSC**)

Scientific Committee for Oceanographic Aircraft Research (**SCOAR**)

Marine Seismic Research Oversight Committee (**MSROC**)

Maintaining an Environment of Respect at Sea (MERAS) Committee

*Safety Committee*

*U.S. Coast Guard Polar Icebreakers (Healy, Polar Star)*

*Woods Hole Oceanographic Institution (WHOI) NDSF – Alvin, Jason, Sentry*

*Naval Postgraduate School (NPS) Twin Otter*

*Ocean Bottom Seismometer Instrument Center - Operations Sub-Committee*



# The UNOLS Office

- 5-year contract with the option for another 5 years
- Historical UNOLS office hosts include:
  - University of Rhode Island (Jack Bash)
  - Moss Landing Marine Lab (Mike Prince)
  - University of Rhode Island (Jon Alberts)
  - University of Washington (Doug Russell)



# The UNOLS Office at Univ. Wash.

- Executive Secretary – Doug Russell
  - Doug’s focus: Scheduling, COVID-19 mitigation, RVOC, MSROC, AICC, UNOLS Office grants & reports
- Deputy Executive Secretary – Alice Doyle
  - Alice’s focus: MFP, meetings, data calls, committee facilitation, DeSSC, SCOAR
- Marine Technical Manager – Brandi Murphy
  - Brandi’s focus: All things RVTEC & MERAS
- Crewing Support Manager - Meegan Corcoran
  - Meegan’s focus: Facilitating recruitment & retention of ships’ crew members, assisting ship operators in crewing vessels, outreach
- Special Projects Coordinator– Bridget Harrell-Donze
  - Bridget’s focus: meeting planning & coordination, IT help desk, website maintenance, office management, purchasing, budgets
- Student Assistants – Stefani Martynenko & Casey Haagenson
  - Student focus: Newsletter, website assistance, social media





# Global Class



*R/V Marcus G. Langseth /  
LDEO*



*R/V Atlantis / WHOI*



*R/V Sikuliaq / UAF*



*R/V Roger Revelle / SIO*



*R/V Thomas G.  
Thompson / UW*



# Ocean/Intermediate Class



*R/V Atlantic Explorer / BIOS*



*R/V Endeavor / URI*



*R/V Kilo Moana / UH*



*R/V Neil Armstrong / WHOI*



*R/V Sally Ride / SIO*



# Regional Class



*R/V Hugh R. Sharp / University of Delaware*



*The RCRVs:*

*R/V Taani/ Oregon State University*

*R/V Narragansett Dawn / East Coast Oceanographic Consortium*

*R/V Gilbert R. Mason / Gulf-Caribbean Oceanographic Consortium*

# Coastal/Local Class



*R/V Pelican / LUMCON*



*R/V R.G Sproul / SIO*



*R/V Savannah /  
Skidaway Institute of  
Oceanography*



*R/V F.G. Walton Smith /  
University of Miami*



*R/V Blue Heron /  
University of MN, Duluth*



*R/V Rachel Carson / UW*



## Additional Ice Capable Research Vessels

Not officially part of the US ARF but utilized by NSF OCE and other federal funding agencies in certain occasions.



USCGC HEALY



RVIB *Nathaniel B. Palmer*



# National Oceanographic Facilities

**UNOLS National Oceanographic Aircraft Facility**

**NPS-CIRPAS**

*Funded by ONR*

**Twin Otter - CIRPAS - NPS**





## National Deep Submergence Facility

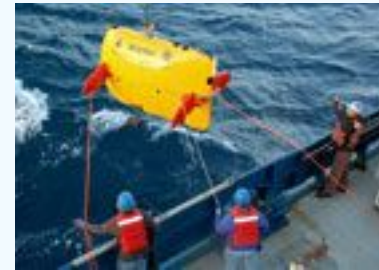
*ALVIN is owned by ONR. Facility is funded by NSF*



HOV Alvin



ROV Jason

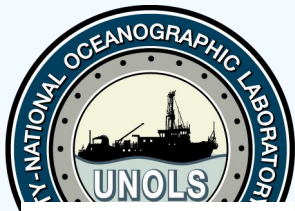


AUV Sentry



## National Oceanographic Seismic Facility

*RV Marcus G. Langseth  
Owned by LDEO, funded (mainly) by  
NSF*



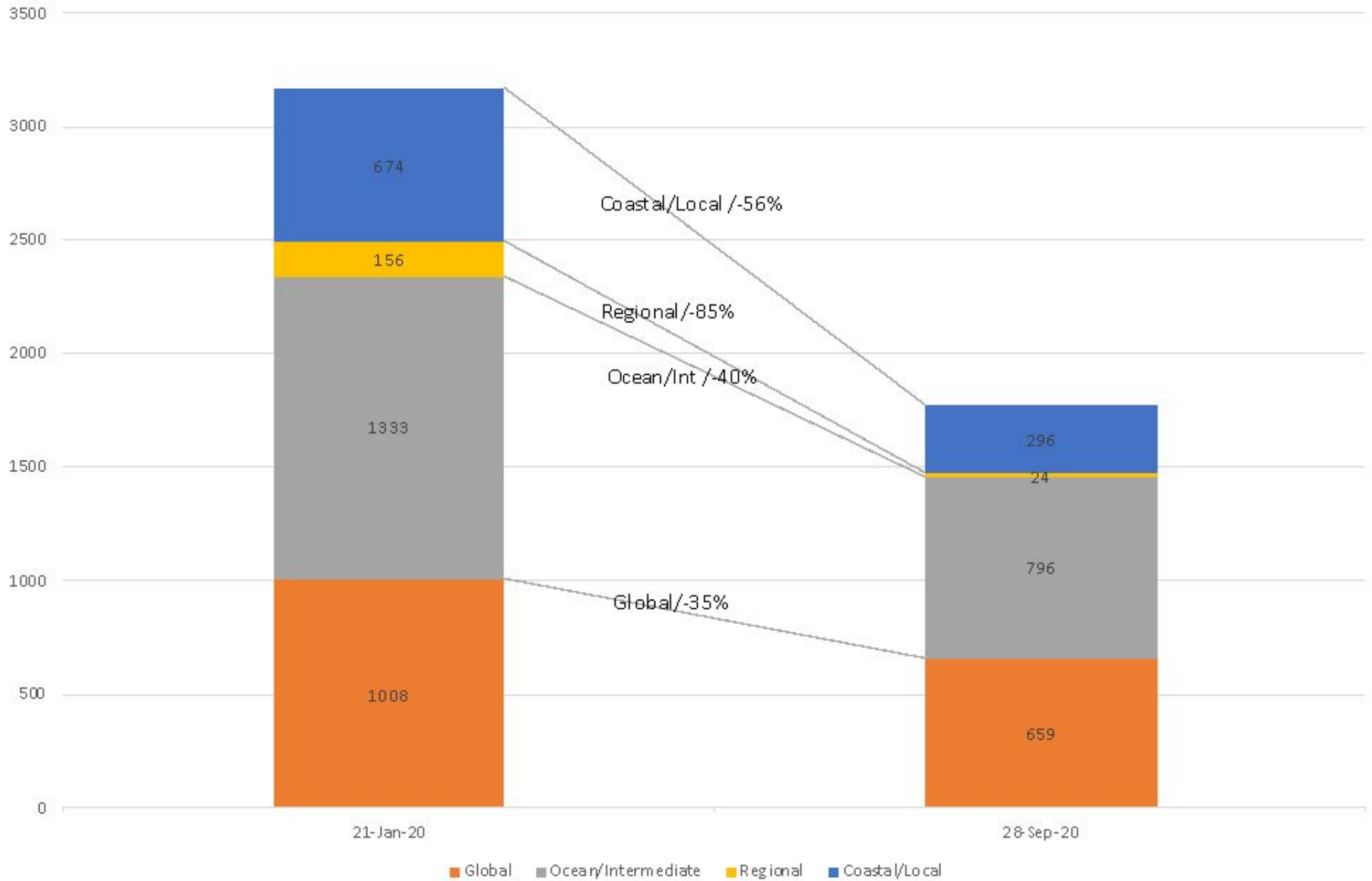
# Project Service Life

Ship/Class	Owner	<span style="display: inline-block; width: 15px; height: 10px; background-color: #92d050; border: 1px solid black;"></span> Design Life <span style="display: inline-block; width: 15px; height: 10px; background-color: #ffff00; border: 1px solid black; margin-left: 10px;"></span> Extended Life <span style="display: inline-block; width: 15px; height: 10px; background-color: #c0392b; border: 1px solid black; margin-left: 10px;"></span> Retired														Ship Age	orig. EOL	Retire Year	Year Built	LOA m (ft)	Sci. Berths	
		2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029							2030
<b>Global Class</b>																						
<i>Thomas G. Thompson</i>	NAVY																32	2021	2036	1991	84 (274)	36
<i>Roger Revelle</i>	NAVY																27	2026	2041	1996	84 (274)	37
<i>Atlantis</i>	NAVY																26	2027	2042	1997	84 (274)	37
<i>Marcus G. Langseth</i>	LDEO																32	2020	2024	1991	71 (235)	35
<i>Sikuliaq</i>	NSF																9	2045	2045	2014	80 (261)	26
<b>Ocean/Intermediate Class</b>																						
<i>Kilo Moana</i>	NAVY																21	2032	2032	2002	57 (186)	29
<i>Endeavor</i>	NSF																47	2006	2022	1976	56 (185)	18
<i>Atlantic Explorer</i>	BIOS																41	2012	2026	1982	51 (168)	20
<i>Neil Armstrong</i>	NAVY																8	2045	2045	2015	73 (238)	24
<i>Sally Ride</i>	NAVY																8	2046	2046	2015	73 (238)	25
<b>Regional Class</b>																						
<i>Hugh R. Sharp</i>	UDel																18	2035	2035	2005	44 (146)	14
<i>Taani</i>	NSF																	2053	2053	2023	60 (199)	16
<i>Narragansett Dawn</i>	NSF																	2054	2054	2024	60 (199)	16
<i>Gilbert R. Mason</i>	NSF																	2054	2054	2024	60 (199)	16
<b>Coastal/Local Class</b>																						
<i>Robert Gordon Sproul</i>	SIO																42	2011	2025	1981	38 (125)	12
<i>Pelican</i>	LUMCON																38	2015	2025	1985	36 (116)	14
<i>Walton Smith</i>	U.Miami																23	2015	2030	2000	30 (96)	16
<i>Savannah</i>	SkIO/UG																22	2016	2031	2001	28 (92)	19
<i>Blue Heron</i>	UMINN																38	2015	2030	1985	26 (86)	6
<i>Rachel Carson</i>	UW																20	2033	2033	2003	22 (72)	9

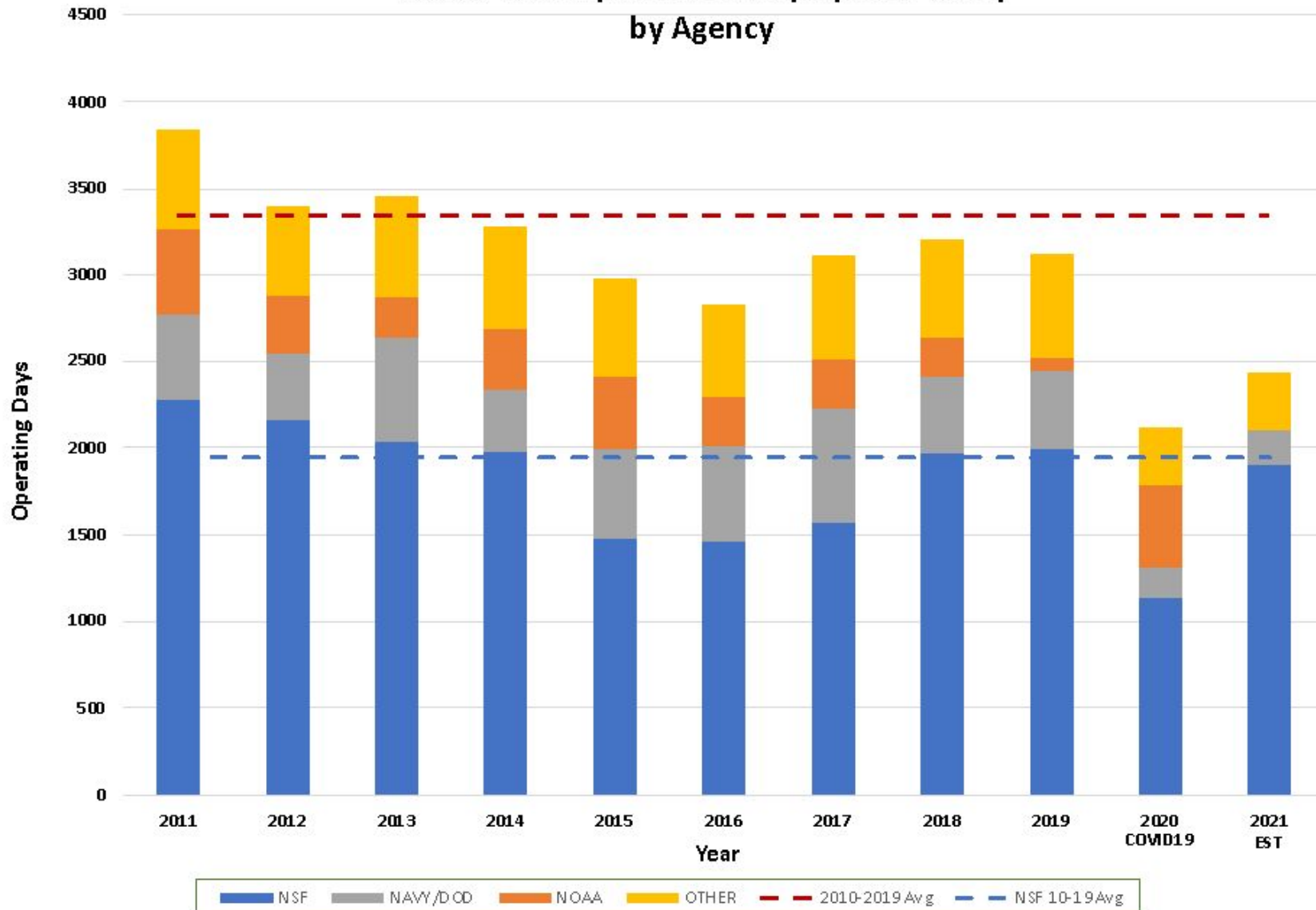


# 2020 SHIP DAYS BY CLASS

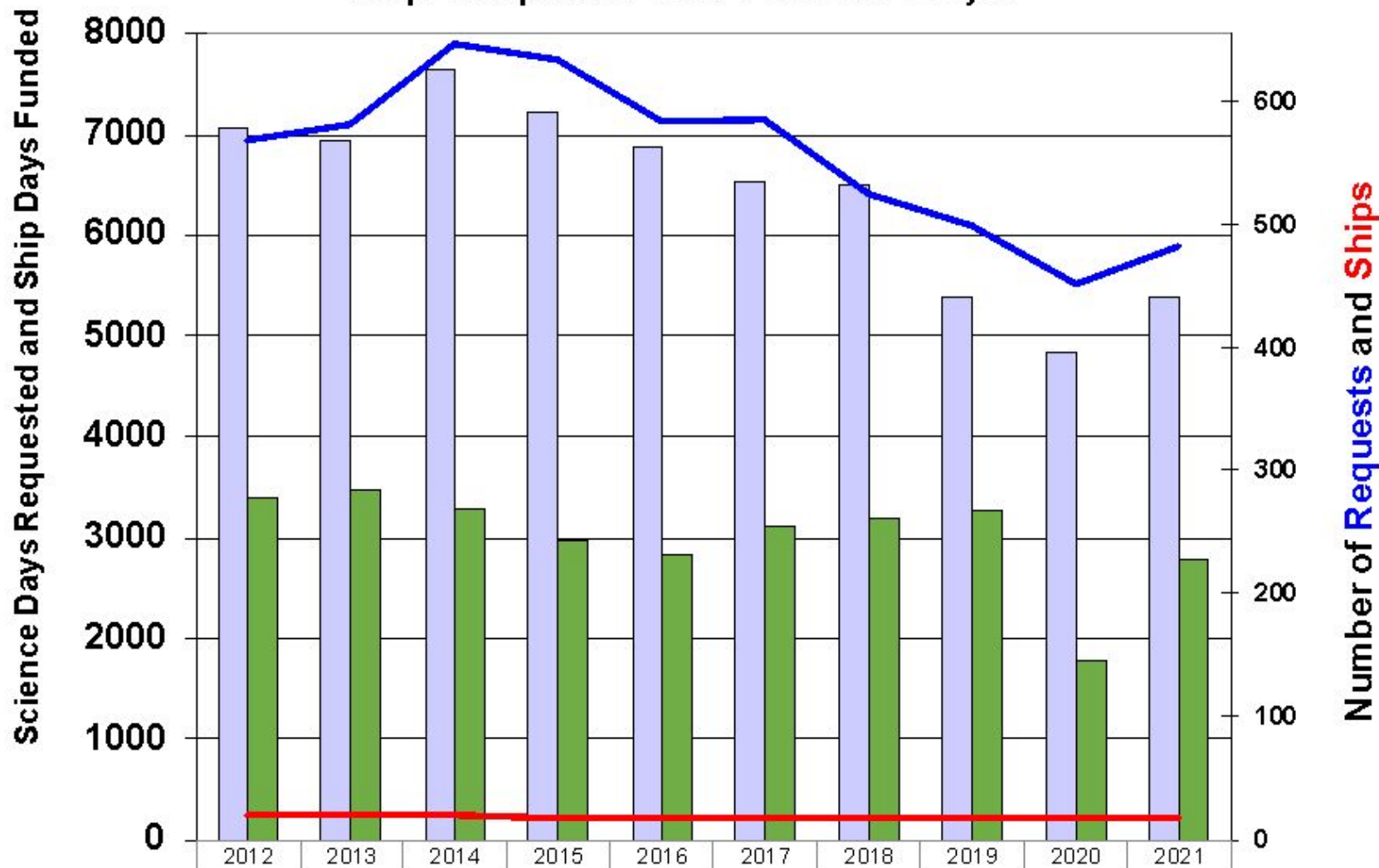
Pre and Post Covid-19



## UNOLS Fleet Operational Days (2011 - 2021) by Agency



# Ship Requests and Funded Days



Days Requested	7056	6942	7648	7210	6877	6543	6482	5393	4847	5395
Ship Days Funded	3397	3462	3284	2980	2838	3106	3201	3269	1775	2797
# of Requests	568	581	646	633	583	585	524	498	451	481
# of Ships in Service	20	20	20	17	18	18	18	18	17	17



# Annual Council Tasking

- Meetings –
  - Spring - in person at an institution (1.5 days)
  - Summer online (2ea 3-4hr zoom)
  - Fall - in person in DC as part of the Annual Meeting (0.5 day + attendance to FIC)
- Approve committee nominations (ongoing)
- Council Nominating Committee (summer/fall)
- Agency Letter Response (summer)
- Other activities as needed



# 2023 **HOT** Topics

## • COVID-19 Response - UPDATE

- Ship operators use Risk Based assessment to determine pre-cruise mitigation strategies
- Each vessel has their own policies and procedures

## • Crewing

- Ship operators challenged in recruiting & retaining crew
- Crewing Tiger Team stood up through 2022, ideas for improvements presented to agencies & supported for implementation
- Crewing Support Manager position created & hired

## • Cyberinfrastructure & Cybersecurity

- Some key presentations can be found [here](#) and [here](#).
- The [Trusted CI](#) (an NSF program) has been hired as a contract CISO for the US ARF.
- Cybersecurity is a small part of cyberinfrastructure. The general consensus is that the fleet needs a cyberinfrastructure plan.



# 2023 **HOT** Topics

- Diversity, Equity, Inclusion & Justice
  - An increased on focus on DEIJ over the past year plus under the guidance of the UNOLS Chair
  - Meetings Code of Conduct developed & being implemented for meetings
  - Some Committees developing their own Code of Conduct
  - Council interest in how we can reach further and inform better about the UNOLS community
- Marine Facilities Planning – [mfp.us](https://mfp.us)
  - New fully-integrated scheduling, cruise and asset planning tool.
  - 2022 & 2023 schedules published in MFP, developing them for 2024
  - Cruise Planning rolled out for Ocean & Global vessels.
  - Other modules SLOWLY getting rolled out.



# 2023 **HOT** Topics

- Arctic Science
  - AICC working with NSF & USCG to facilitate Arctic Science while USCG works to meet increasing demands for HEALY shiptime in support of its many mission requirements with new U.S. focus on Arctic strategy
- Langseth Replacement
  - LDEO working to obtain a replacement vessel for R/V Langseth
  - MSROC (seismic capabilities) and FIC (general oceanographic capabilities) providing input to LDEO
- RCRVs
  - Much delayed due to variety of issues but program is now stable. Anticipate delivery of R/V Taani later this year
  - Program ok budget-wise



# 2023 **HOT** Topics

- UNOLS Office Review
  - The UNOLS Council will be conducting a review of the UNOLS Office this year to determine whether a 2nd 5-year term is merited per the Charter





# Outreach Programs

## Undergraduate

- STEMSEAS –
  - PIs: Sharon Cooper/LDEO & Jon Lewis/UIP
  - Place students on transit/repositioning legs.
  - Focuses on exposing undergraduates from underrepresented groups to Marine Science.
  - This has been a very successful program
  - The program was hit hard by COVID due to the lack of berths onboard - but is returning to pre-COVID form
  - A good couple presentations –
    - Pre-COVID [here](#).
    - During COVID [here](#).



# Outreach Programs

## Undergraduate

- Marine Advanced Technology Education (MATE) internship
  - Focuses more on the Technical careers onboard – esp. Marine Tech (MT).
  - Participants are placed with MTs onboard the vessels for 2-6 weeks
  - There is 1 Long Term internship (~6 months) annually
  - Several of the interns were hired into the fleet.
  - Grant moving to the UNOLS office



# Outreach Programs

## Chief Scientist Training Cruises

- Funded by NSF & ONR
- Grant given to a PI to host the training
- Normally consists of
  - Application & Selection process
  - Pre-cruise Zoom calls to start planning
  - 2-day shore-based component
  - Multi-day cruise
- Some, but not all, cruises use the blog [here](#)
- The program is well received
- Coring program (on R/V Revelle) - 2022
- Polar Science program proposed for 2023 on R/V Sikuliaq



# Outreach

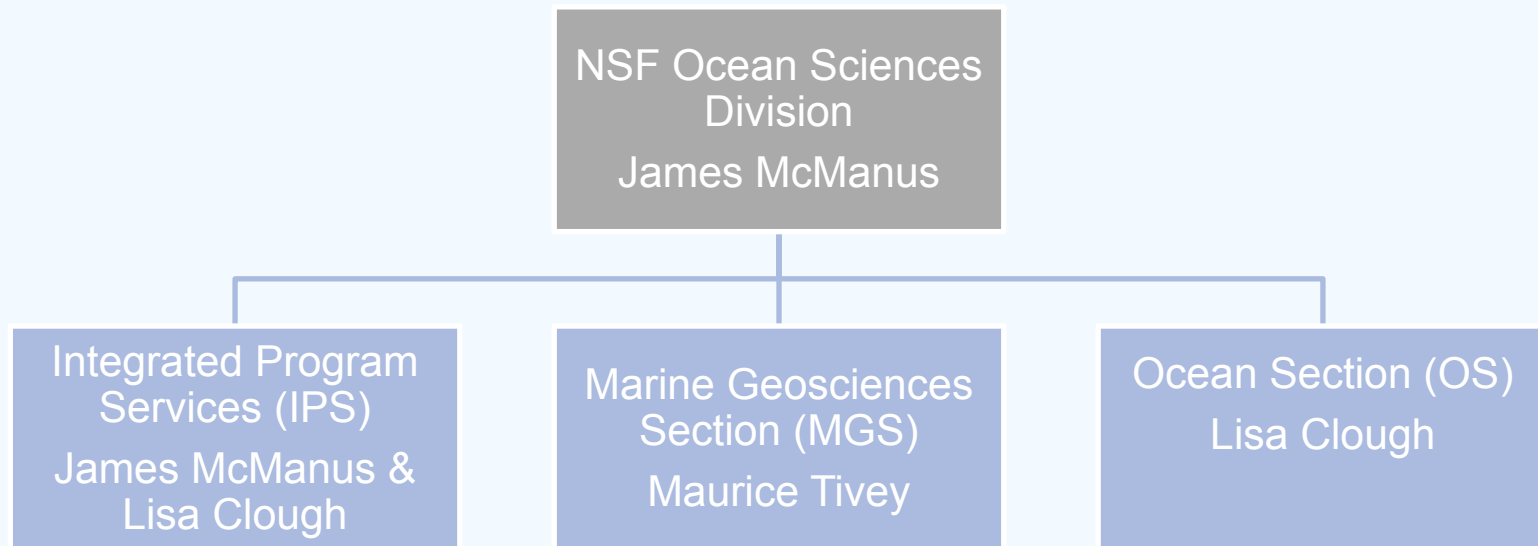
- 2023 DeSSC New User Program
  - A 1.5-day program in WHOI
  - Open to undergrad through early career
- UNOLS Newsletter
  - Quarterly newsletter to keep the community informed.
- UNOLS Website
- UNOLS Social Media
- UNOLS Outreach Materials
  - Brochures
  - Banners
  - Developing a promotional video



# Funding Agencies

## National Science Foundation (NSF)

Funds ~65% of science days





Integrated Program  
Services  
James McManus &  
Lisa Clough

Ship Operations Program  
Rose Dufour

Ocean Inst. & Tech  
Services  
Jim Holik

Ocean Education  
Lisa Rom

Ship Acquisition &  
Upgrade / NDSF  
Brian Midson

Ocean Drilling Program  
Jamie Allan

OOI  
George Voulgaris

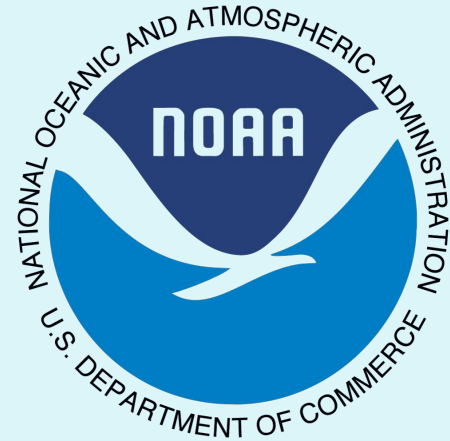


## ONR

Funds ~15% of science days

**CAPT Rob Sparrock**

**USN Retired**



## NOAA

Funds ~5% of science days

**CDR Claire Surrey-Marsden**

**NOAA Corps**



# Part II: Available Resources





# The UNOLS website

[www.unols.org](http://www.unols.org)

Not so easy to find items:

- **Cruise Planning info and resources**
  - Schedules/Cruise Planning Information
    - Timelines, contacts, information
    - Information about working in Foreign Waters and Ports, facilities, etc.
- **Link to Marine Facilities Planning (MFP) & MFP help**
- **Civility at Sea information**
  - Committees/MERAS
- **Document Search**
  - RVSS, White Papers, Committee reports, etc

When all else fails, use the **SEARCH feature** (top right of home screen)



# UNOLS

## Online Equipment Inventory and Facilities

Links to the Online Equipment Inventory as well as all of the the Pooled Equipment Facilities are available from the UNOLS homepage:

UNOLS  
UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

Home Contact Email Signup Search

ABOUT SHIPS/FACILITIES SCHEDULES COMMITTEES MEETINGS FORMS & DOCUMENTS JOBS & EARLY CAREER

UNOLS VESSELS  
SMALL RESEARCH VESSEL INVENTORY  
UNOLS DESIGNATED FACILITIES  
OTHER FACILITIES  
UNOLS EQUIPMENT INVENTORY  
GREENING THE FLEET INITIATIVE

**PLANNING A RESEARCH CRUISE?**  
UNOLS HAS CREATED A NEW CRUISE PLANNING RESOURCE PAGE!

**UPCOMING EVENTS**

**2019 RV KILO MOANA Chief Scientist Training Workshop**  
06/13/2019 Honolulu, HI

**2019 RV Blue Heron Chief Scientist Training Workshop**  
06/16/2019 Duluth, MN

**2019 RVTEC Meeting**  
10/22/2019 Fairbanks, AK

**2019 Fall FIC Meeting**  
11/20/2019 Alexandria, VA

[VIEW EVENTS CALENDAR](#)

**Welcome to UNOLS**

University-National Oceanographic Laboratory System (UNOLS) is an organization of 59 academic institutions and National Laboratories involved in oceanographic research and joined for the purpose of coordinating oceanographic ships' schedules and research facilities.



# UNOLS Online Equipment Inventory

[http://strs.unols.org/Public/Search/diu\\_equipment.aspx](http://strs.unols.org/Public/Search/diu_equipment.aspx)

## UNOLS Equipment Inventory Search

**Institution:**

**Vessel/Facility:**

**Group:**

**Device Type:**

**Manufacturer:**

[Export Current Page](#) | [Export All](#) | Page Size:

	Institution	Vessel/Facility	Group	Device type	Manufacturer	Model	Description	Number	Component of
<a href="#">View/Edit</a>	URI_GSO	Portable	nets & trawls	mocness	BESS	MOC-1		1	
<a href="#">View/Edit</a>	RSMAS	Portable	nets & trawls	mocness	BESS	MOC-1		1	
<a href="#">View/Edit</a>	RSMAS	Portable	nets & trawls	mocness	BESS	MOC-1 double		1	
<a href="#">View/Edit</a>	RSMAS	Portable	nets & trawls	mocness	BESS	MOC-10		1	
<a href="#">View/Edit</a>	OSU_COAS	Portable	nets & trawls	mocness	BESS	MOC-1	1m2	1	
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<a href="#">View/Edit</a>	SIO	Portable	nets & trawls	mocness	BESS	MOC-1 double		1	
<a href="#">View/Edit</a>	SIO	Portable	nets & trawls	mocness	BESS	MOC-10		1	
<a href="#">View/Edit</a>	UH_SOEST	Kilo Moana	nets & trawls	MOCNESS	BESS	MOC-1		1	
<a href="#">View/Edit</a>	UAF	SIKULIAQ	nets & trawls	mocness	BESS	MOC-1			mocness



# UNOLS

## Pooled Equipment/Services

[unols.org/Ships/Facilities/](https://unols.org/Ships/Facilities/) Other Facilities



# Portable Lab Van Pools



- Operated by:
  - U Delaware (East Coast)
  - OSU (West Coast)
- Portable labs including dry lab, isotope lab, cold lab, clean labs, AUV van
- Requested early in the planning phase
- NOTE: Some institutions have their own lab vans so consult with the host institution prior to requesting a van
- Non-NSF-OCE cruises must pay for portable Lab Van support out of the grant.



# Winch Pool

- Operated by:
  - WHOI (East Coast)
  - SIO (West Coast)
- Heavy, Medium, Light and Ultra- light duty, mooring winches available
- Requested early in the planning phase
- NOTE: Institutions have their own installed and portable winches so consult with the host institution prior to requesting a winch
- Non-NSF-OCE cruises must pay for Winch Pool support out of the grant.

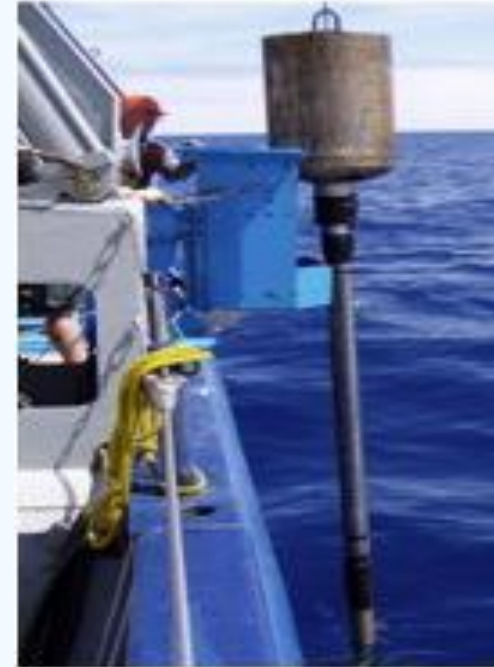


Photo from whoi.edu



# MarSSAM

- Operated by: OSU
- Jumbo Piston Core (JPC), Multi core, box core, gravity core, Kasten core and now DREDGING!
- Also supply the technical support and supplies for these operations.
- Non-NSF-OCE cruises must pay for MarSSAM support out of the grant.





# MISO & PFPE

- Operated by: WHOI
- PFPE: Magnetometers and gravimeters
- MISO: Towcam, MC-800 w/ RT HD camera, Deep-Sea cameras, strobes, High-Temperature Loggers, Acoustic Transponders and more!
- Non-NSF-OCE cruises must pay for support out of the grant.







# Operation SWAB

- 3<sup>rd</sup> party testing for low levels of  $^3\text{H}$  and  $^{14}\text{C}$  contamination of ships and associated laboratory vans
- Operated by the UMiami Tritium Lab (UMTL)
- Visit ships at least 1x per year, sometimes more often
- Can be requested (through the ship operator) prior to natural abundance cruises
- SWAB results are posted online through UNOLS website's Document Search.



## Multibeam Advisory Committee

Operated by L-DEO and UNH  
Support for the multibeam  
systems to help ensure  
consistent high-quality  
multibeam data

More Info:

<http://mac.unols.org/>



Operated by UH/Eric Firing  
& Julia Hummons

Developed a suite of  
collection & processing  
software for ADCP data  
Provides near real-time data  
monitoring to  
participating institution



# Chemistry Services

## ODF

Operated by SIO

Reference Quality Hydrographic Support

- CTD data acquisition and processing to WOCE standards
- More Info: <http://odf.ucsd.edu/>



## Other

- Data Collection and/or sample analysis services may be available from a lab at the host institution
- Ask your cruise Technical Support POC to find out what might be available
- If the host institution cannot help, ask around for other possibilities



# Tech Pool and Tech Sharing

- Each ship supplies a baseline level of technical support
- Baseline level of support varies a bit from ship to ship so be sure to discuss your tech support needs early
- If necessary, additional tech support may be available through the Tech Pool or through Tech Exchanges -



# UNOLS

## Rad Awareness Program

<http://www.unols.org//unols-radioisotope-awareness-program>

Outlines the problem and provides tools (bottom of page) that include:

- Presentations to make folks aware of the issues and how to avoid them.
- Links to Radioisotope Use Logs for each ship.
  - Who has used radioisotopes.
  - SWAB test results.
- Checklists to help everyone understand the roles and responsibilities onboard.

This is a great way to help new users understand rad use on ships in general and especially on multi-purpose ships.



# Working in Foreign Waters & Ports

- White Paper & Appendix
  - [UNOLS Document Search / Foreign Waters](#)
- Roles & Responsibilities
- Timelines
- Key aspects of working in foreign ports and waters



# Take Home Message

- UNOLS is a community!
- We need your support
- Please take an active role as a representative and committee member to spread UNOLS news, updates & resources at your institution and through your network
- Please bring & encourage feedback!



# UNOLS Office & Social Media



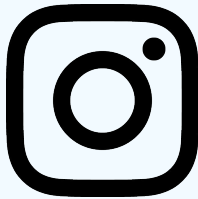
@UNOLS

Contact [media@unols.org](mailto:media@unols.org) for comments & questions or to share your news stories, accounts, pictures and hashtags.



@UNOLS

We want to hear what's new with you!



@UNOLS\_org

