



Oregon State University

MARine Sediment SAMpling Group

(MARSSAM)

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The MARSSAM Inventory:

Equipment Type	Manufacturer	Number
Grab Sampler	Shipek, Van Veen	6
Corer, Slo-corer		1
Corer, Multi (MC-400, stainless)	Ocean Instruments	1
Corer, Multi (MC-800)	Ocean Instruments	3
Corer, Box (0.25 m ²)	Ocean Instruments	2
Corer, Box (0.2 m ²)	Ocean Instruments	1
Corer, Kasten (small)	OSU	2
Corer, Kasten (large)	OSU	2
Corer, Gravity (2" diam barrel)	Benthos	3
Corer, Gravity (4" diam barrel)	OSU	3
Corer, Piston (2.5")*	OSU	2
Corer, Piston (4")*	OSU	3
Corer, Vibra (RIC-4000)	Ocean Instruments	1
Corer, Vibra (RIC-5500)	Ocean Instruments	1
Corer, Rock	OSU	1
Dredge, Rock (SIO style)	OSU	4
Dredge, Rock	UW	2
Dredge, Rock	USGS	2
Dredge, Rock (Ring style)	Unknown	2
Dredge, Rock (Hexagonal)	UH	2
Dredge, Rock	OSU	2
Knuckle Crane	Hiab	2 (see 5.2.4)
Shipping Flat Rack		3
Seagoing Refrigerated Vans	Carrier	3
Phys Props Multi-sensor Track	Geotek	1
Core Computed Tomography Scanner	Geotek	1

Table 2.1: MARSSAM facility equipment inventory available to NSF-supported PI's.

* All piston coring systems include trigger arm, trigger corer, and multiple barrels and couplers.

Depending on the seafloor sampling experience of the shipboard technicians on any ARF vessel, and/or within the science party ***you can request MARSSAM coring/dredging equipment without sailing with a MARSSAM technician.***

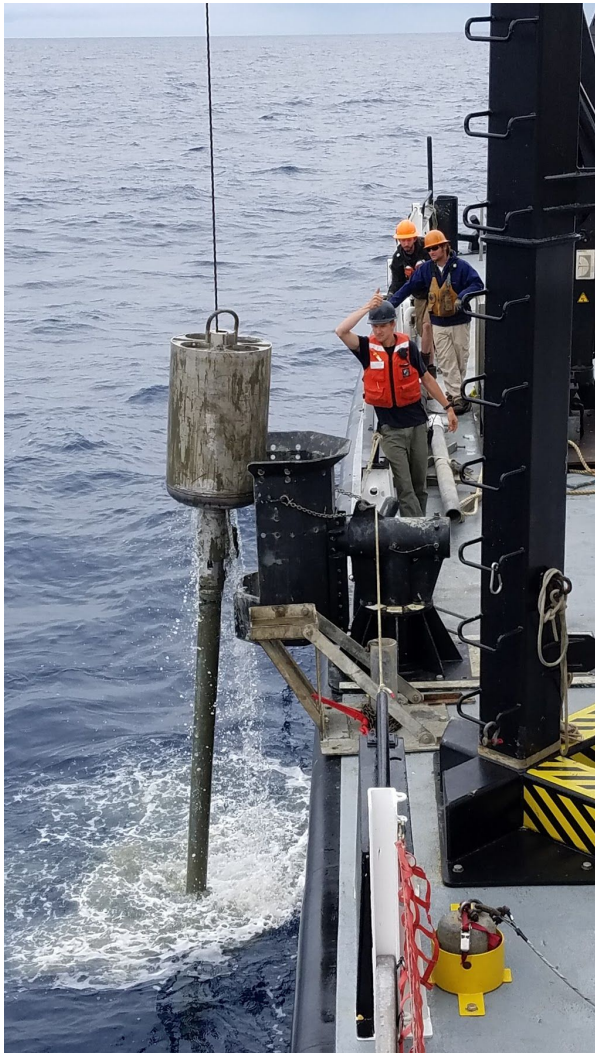
However, you ***can always request MARSSAM shipboard support*** with coring for NSF-funded science.

The MARSSAM Mandate:

- Maintain, repair, and design new coring equipment suitable for U.S. scientific research ships - University-National Oceanographic Laboratory System (UNOLS), Academic Research Fleet (ARF) vessels, and provide a centralized facility for seafloor rock dredging equipment and expertise
- Provide expert advice to PIs seeking seafloor samples for a wide variety of multidisciplinary research goals
- Provide logistical support involved in shipping and staging sampling equipment, and returning and archiving samples to an NSF repository of the PI's choosing
- Provide archival materials and related pooled equipment (e.g. extruders for multicores, rock saw for dredge samples, etc.), shipboard instrumentation (e.g. multi-sensor track for shipboard logging of sediment physical properties, core CT-scanner) and training in the operation of those instruments
- Provide shipboard support for sampling operations, most importantly complex jumbo piston coring or vibracoring systems, and facilitate coordination with shipboard technical groups and operators regarding winch capabilities, weak link systems, overboarding requirements, and compliance with UNOLS Appendix A safety guidelines.

2022-2023

Shipboard Activities:



15 NSF coring activities supported in 2022 (317 days):

R/V Pelican – PI McHugh : *piston + gravity coring*

R/V Armstrong – PI D’Hondt : *piston, gravity + multi coring*

R/V Atlantis – PI Sikes : *piston, gravity + multi coring*

R/V Norseman – PI Pickart : *piston, gravity, multi + gravity coring, grabs*

R/V Sproul – PI Reimers : *slow coring*

R/V Revelle – PI Rathburn : *gravity, and multi-coring*

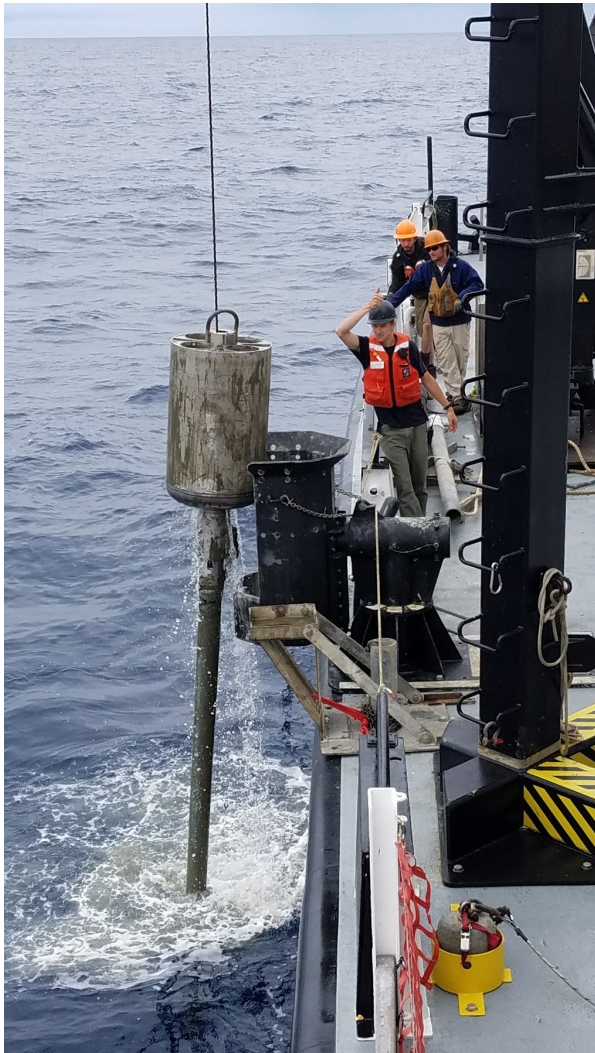
R/V Revelle – MARSSAM PI Training

R/V Healy - PI Ashjian: *box and multi coring, grab sampling*

R/V Sikuliaq - PI Pickart: *multi coring, grab sampling, vibracoring*

Also provided equipment/consumables for 6 total multi-coring cruises aboard R/V Savanna and R/V Pelican

2022-2023 Shipboard Activities:



11 NSF coring/dredging activities in 2023 (ongoing – 275 days anticipated):

R/V Sikuliaq – PI Mickett : multi + gravity coring, *MISO*

R/V Langseth – PI Becel : *gravity + piston coring, go-pro, CT-van*

R/V Walton Smith– PI Rosenheim : *multi + gravity coring, go-pro, CT-van*

R/V Sikuliaq – PI Eidam/PI Training : *multi + gravity coring*

R/V Atlantis– PI Treude : *multi + gravity coring*

R/V Armstrong – PI Hatfield : *multi, gravity + piston coring, MISO, CT-van*

R/V Atlantis– PI Levin : *multi coring, mapping, MISO*

R/V Sikuliaq– PI Fowell : *multi, vibra, gravity + piston coring, MSCL*

R/V Atlantis– PI Lapham : *multi coring, MISO*

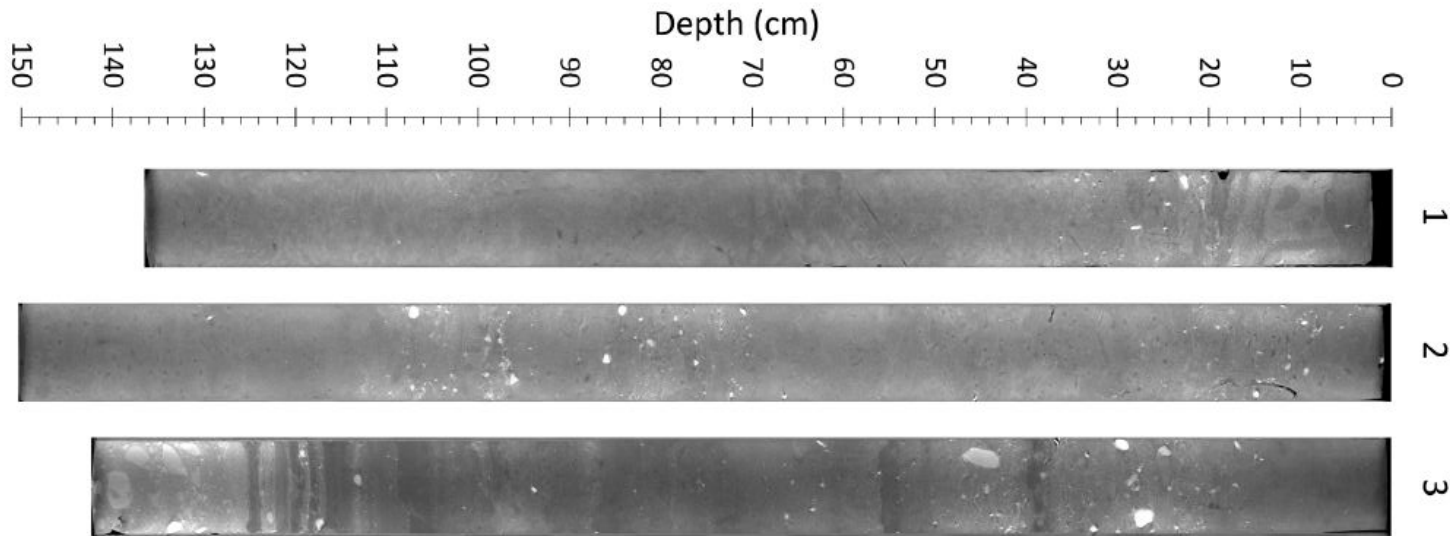
R/V Sproul– PI Ogston : *multi coring, CT-van*

R/V Thompson – PI Wei : dredging

2022-2023 Equipment Updates:



Seagoing Geotek CT scanner now online!



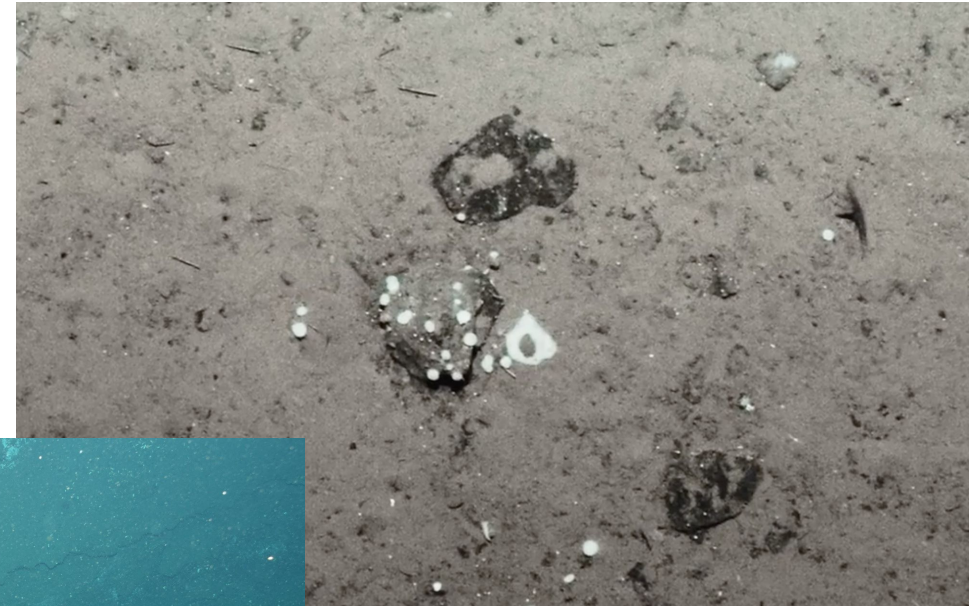
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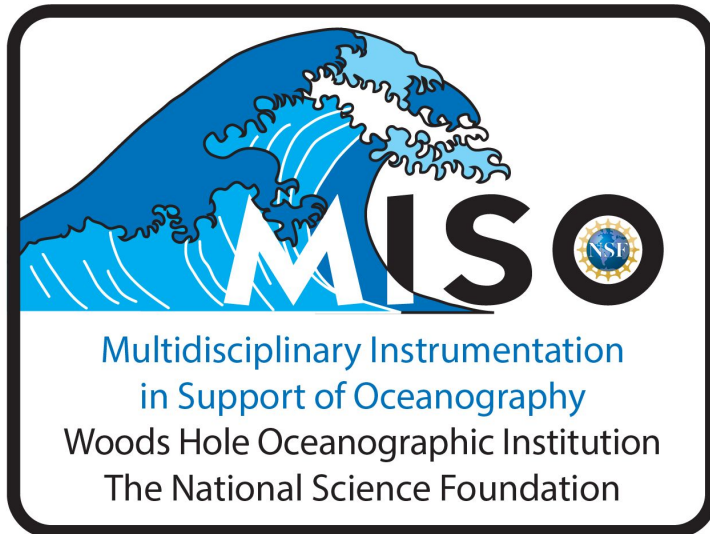
2022-2023 Seafloor imaging:



Ice-rafted debris: AR7608B



Expanding collaboration with MISO facility



Bacterial Mat: AT50-12



Post-cruise Feedback

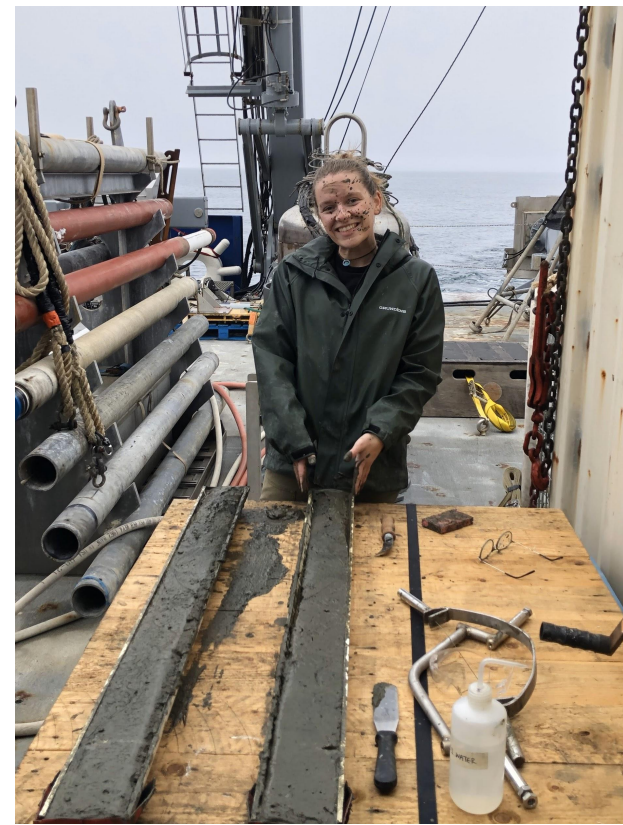
MARSSAM is a great service to the scientific community.

Overall, my experience on this cruise, as on previous cruises, was overwhelmingly positive. MARSSAM is a well-run and professional organization and a huge asset to the marine geology community. They make logistically challenging and technically advanced science, like we proposed for this project, possible.

MARSSAM management and technical support provided excellent support for our research program.

The performance of MARSSAM so far exceeded my expectations, I feel like making ANY suggestions for improvement would be an insult! I am truly grateful. Without MARSSAM, we would have failed.

It is honestly hard to think of how my experience could have been improved. From initial planning that took my needs from a short conversation and made everything happen in the background, taking it off my plate, through a positive can-do attitude at sea, through safely taking care of our samples and returning them to the repository. If it isn't already, the MARSSAM facility should be considered a jewel in NSF's facilities crown.



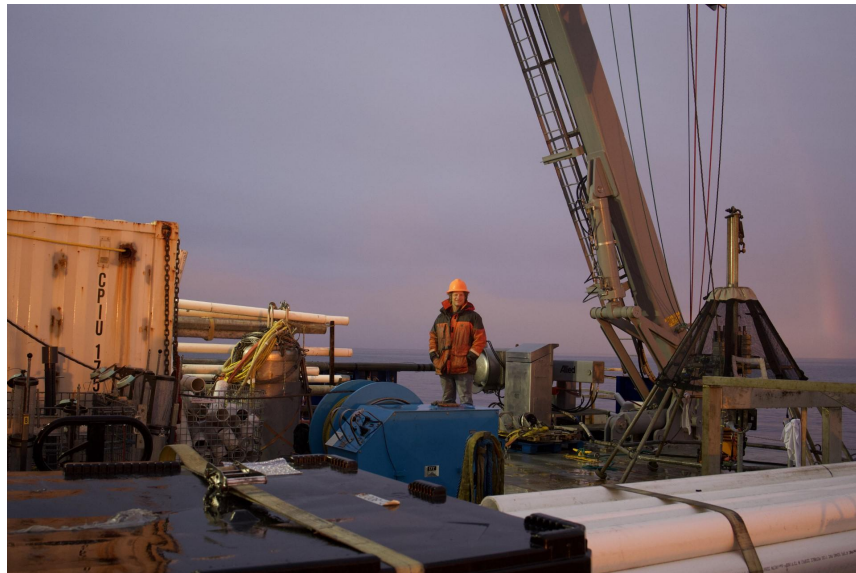
Looking Ahead:



Revamp of metadata collection to accommodate dredging and seafloor imaging

Shakedown of PCDRM system for RCRV class

Building community awareness of Academic Research Fleet seafloor sampling resources – FUTURE and FOCUS workshops



THANK YOU JIM!!!