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Endurance Array Status and Community Engagement

Ed Dever and OOI Endurance Array team
2023-10-12



Outline

- Staffing
- 2023 Turn Cruises
- Platform status
- Community Engagement



The EA Team

Principal Investigator/
Project Scientist



Ed Dever
0.6 FTE

13 FTE

Project Management

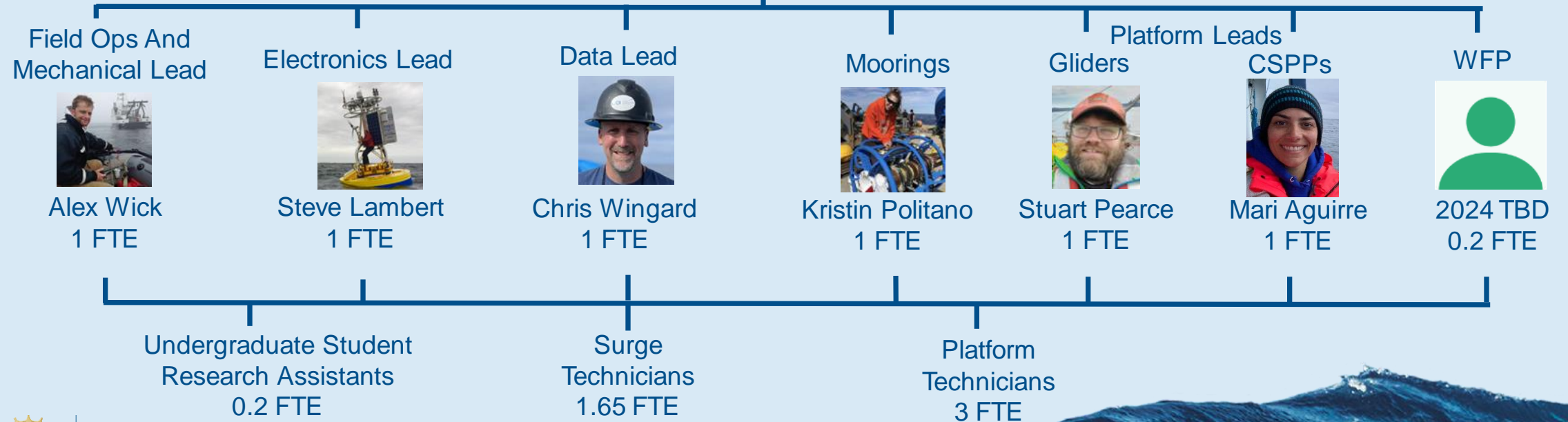


Jon Fram
0.9 FTE

Finance



Pei Kupperman
0.45 FTE



Endurance Array Turn Cruises

Endurance 18 Winter 2023

- R/V Sikuliaq
- 7-21 March 2023
- Newport – Newport, 2 legs
- Cruise was early, weather somewhat of a challenge (swell)

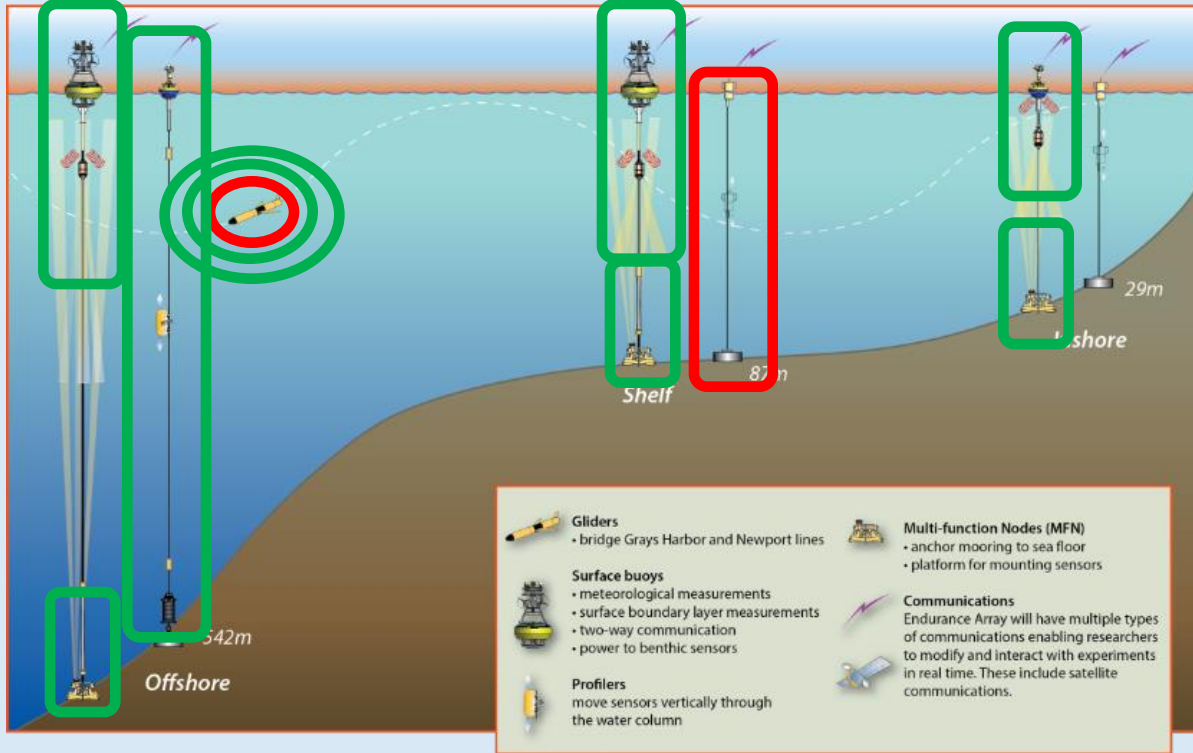
Endurance 19 Fall 2023

- R/V Atlantis
- 21 September – 7 October 2023
- Astoria – Astoria, 3 legs
- Scheduling was reasonable, weather still somewhat of a challenge (wind plus an early storm)
- Alvin A-frame (LARS) not well suited to deploy and recover OOI surface moorings; significant questions over whether we would receive Navy permission to deploy and recover surface moorings

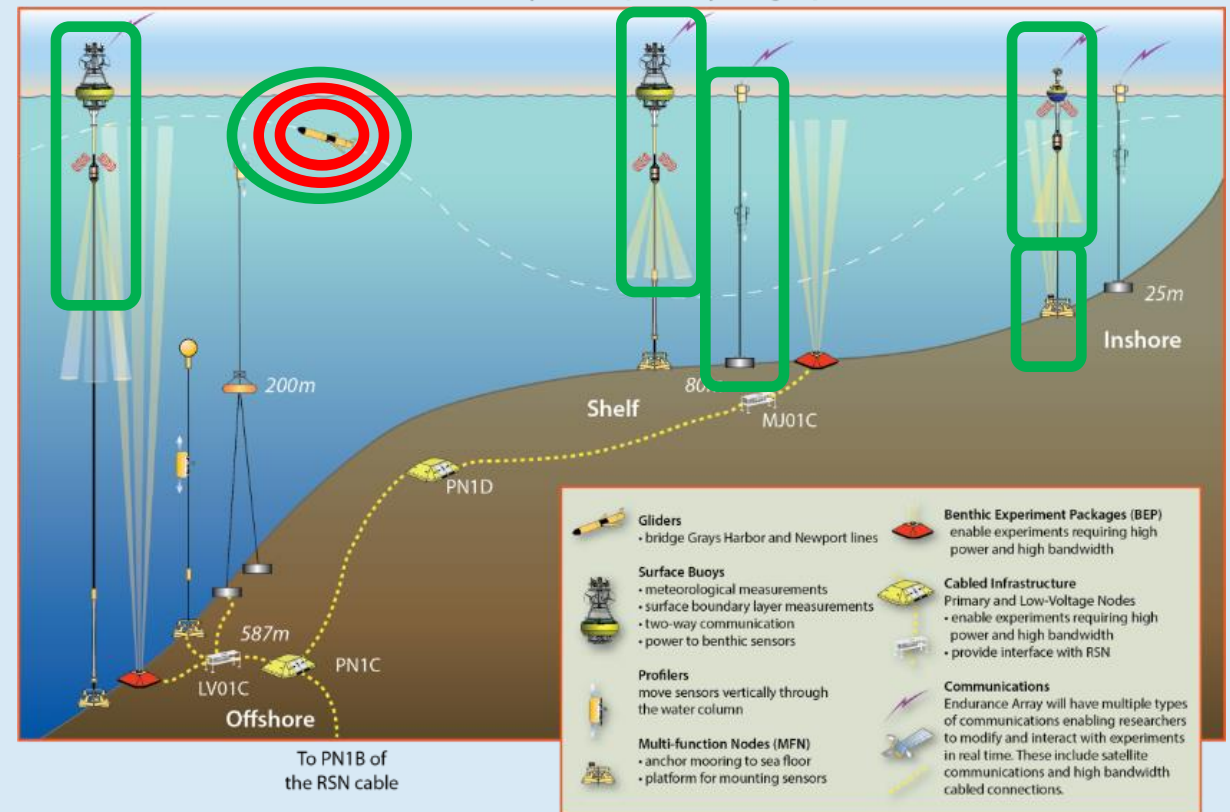


Endurance Array platform status

Endurance Array – Grays Harbor Line



Endurance Array - Newport Hydrographic Line



Inshore Oregon and Washington CSPP's not currently deployed as per winter plan.
 Washington shelf CSPP deployment pending weather and ship availability this winter.
 Additional glider (Newport Shallow) being prepped for deployment around 25 October.





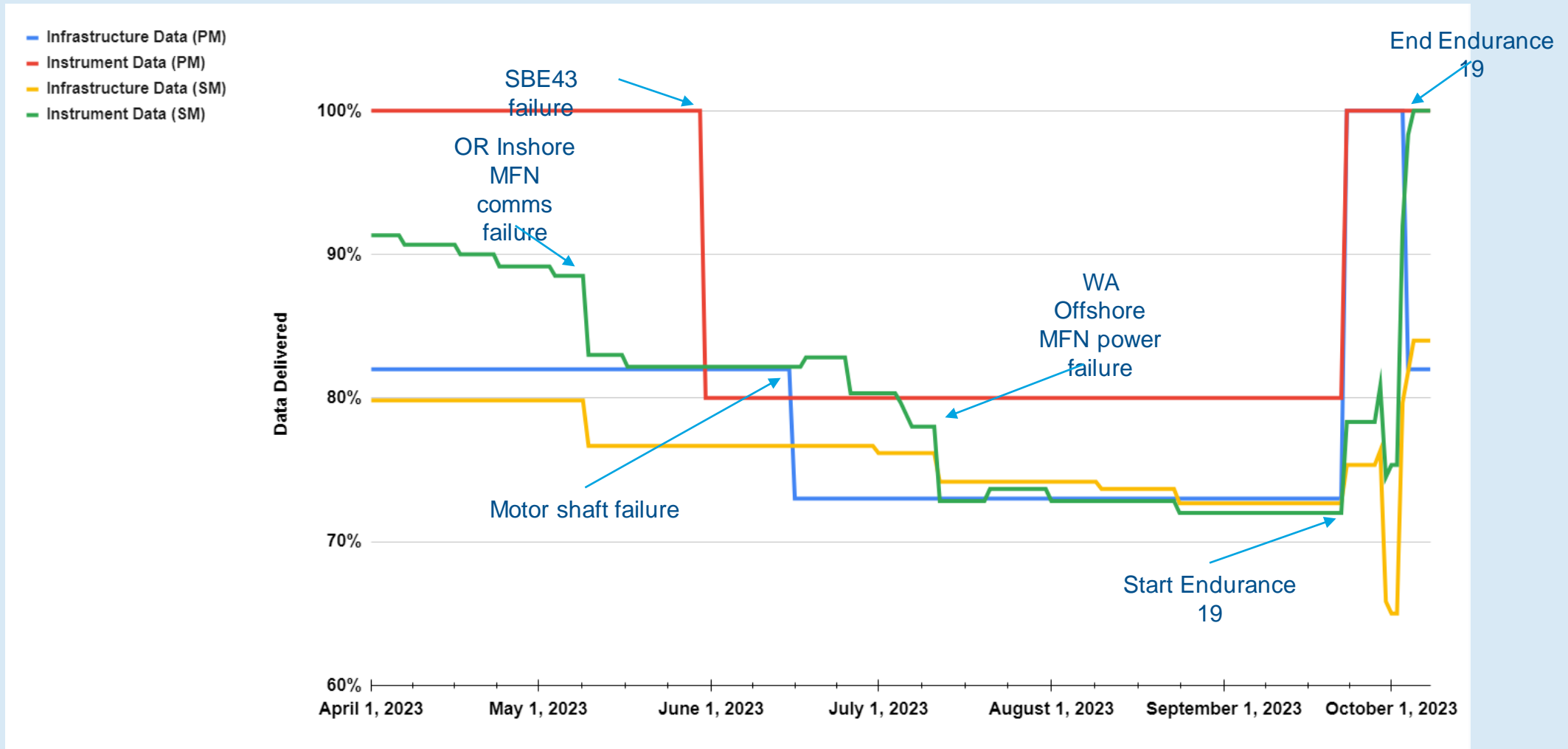
Endurance 19 Mooring Status

Platform	Infrastructure %	Instruments Deployed %	Near Real Time Delivered %	Data Collected %
Oregon inshore	81%	95%	100%	100%
Oregon shelf	82%	100%	100%	100%
Oregon offshore	79%	100%	100%	100%
Washington inshore	88%	91%	100%	100%
Washington shelf	81%	97%	100%	100%
Washington offshore	81%	90%	100%	100%
Washington offshore profiler	82%	100%	100%	100%

% takes into account electronics intentionally turned off (e.g., acoustic modems, FreeWave etc.)

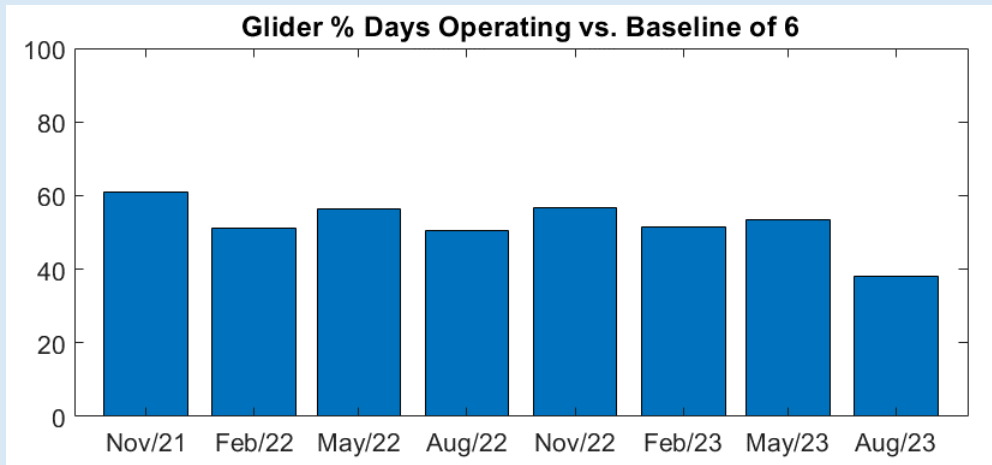
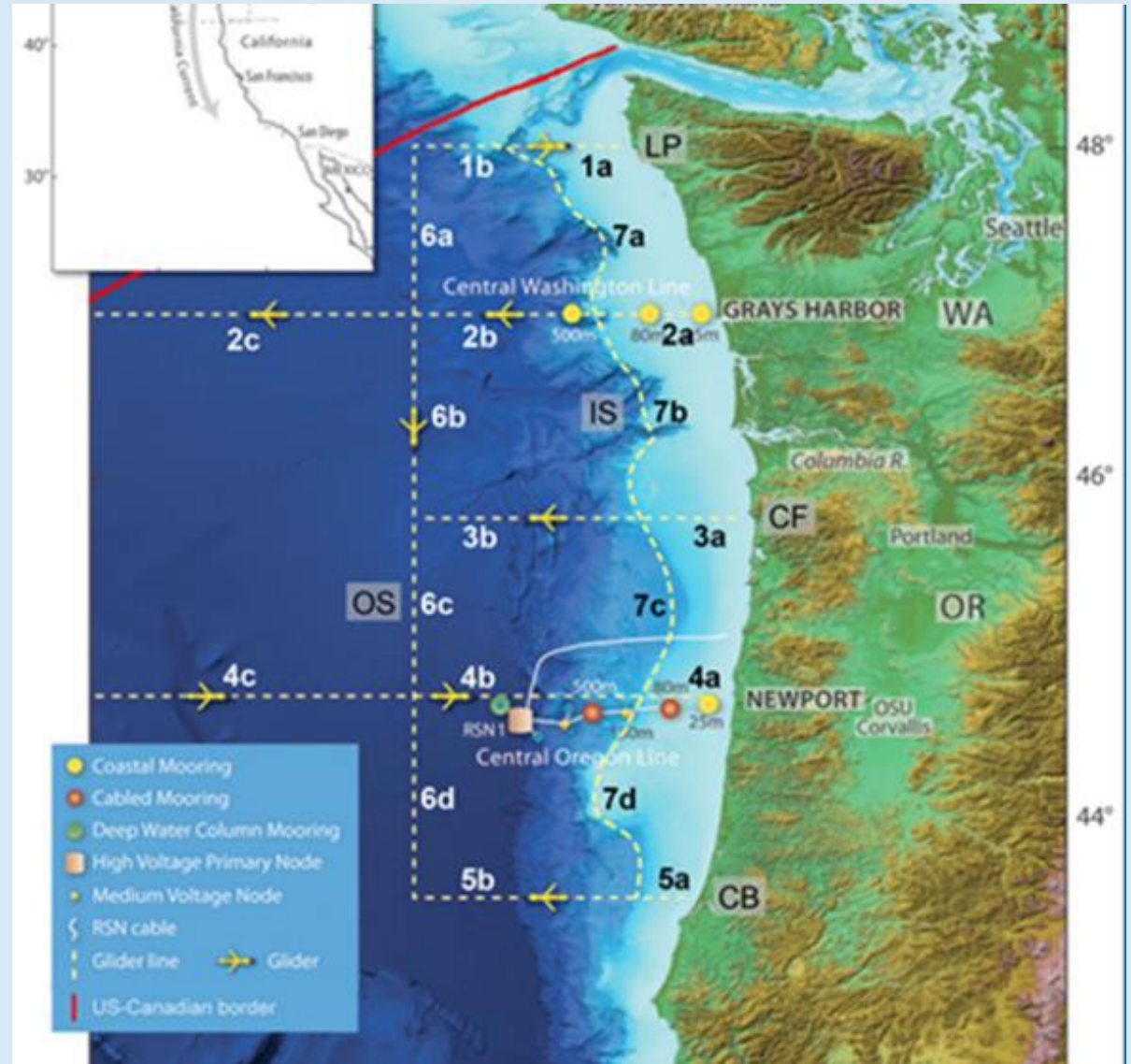


Operational Statistics: Last 6 Months



Endurance Array Glider Coverage

- Have been cycling G2 gliders through trade in to G3 gliders (sensors reused, otherwise new vehicle)
- Several G3 glider issues being worked through (build quality and firmware)
- Drop in Aug 2023 in part due to loss of G2 glider 383 (likely ship strike; to be replaced using OOI 2.0 PYV PMO underrun)

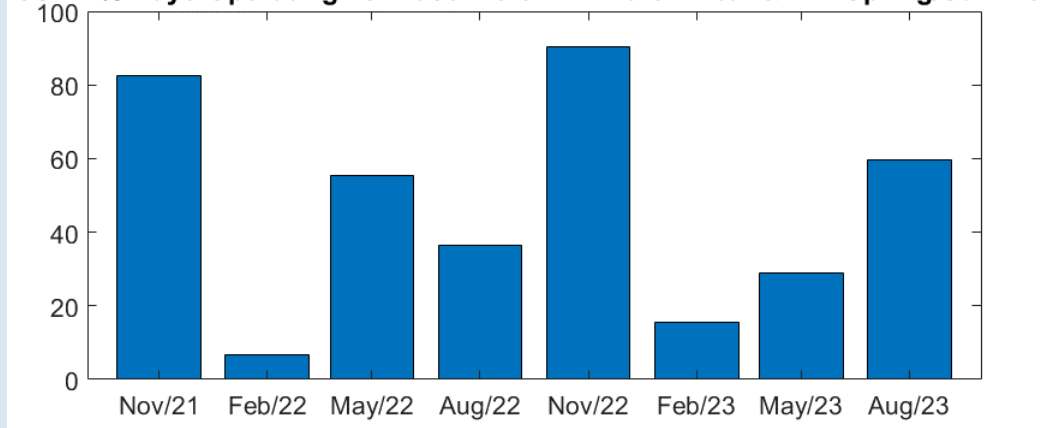


Endurance Array CSPP Deployment Summary

- Fall and Winter focus on Oregon shelf site (aim for 50%), and if we can get up to Grays Harbor in January, we'll deploy Washington shelf site.
- In 2023, phased out the old anchor type and made improvements to the new type.
- CSPP cell modems stopped working early 2023 because of a change at Verizon. Replaced all cell modems (Sierra Wireless RV50 to RV50X). New 'X' model modems connect more reliably than the old ones ever did.
- Previous CSPP lead departed March 2023, new lead as of Sep 2023



CSPP % Days Operating vs. Baseline of 2 in Fall/Winter & 4 in Spring/Summer



Community Engagement Highlights (see quarterly reports)

- Coordination with Prof. J. Fehrenbacher (OSU) on sediment trap turn in spring 2023. One PI-added day plus people time. Working together again on Endurance 20 in spring 2024.
- Responded to three PI's independently proposing to NASA Plankton, Aerosol, Cloud, ocean Ecosystem (PACE) validation call in spring 2023.
- Renewable wave energy conversion test and prototype UV antifouling device deployed fall 2023
- Several follow ups with gliders users following September 2022 Underwater Glider Users Group (UG2) meetings.
- Engagement with four graduate students using OOI data (UCSC, Rutgers/SIO, OSUx2).
- Two UNOLS cruise volunteers in spring (Western Washington Univ., UC Berkeley) and fall (Univ. Miami, Oregon State) 2023
- Data, instrument expertise, and logistical support for OOIFB bio-optics summer school
- Participation in Eastern Pacific Ocean (EPOC), Coastal and Estuarine Research Federation (CERF) regional meetings
- Contributed talks to Fall 2022 AGU and staffed OOI Booth.
- Science session at February 2024 Ocean Sciences meeting – one of the talks contributed by a former UNOLS cruise volunteer now a post-doc modeler at NRL working off the Grays Harbor region of the Endurance Array.





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