

Board Participants in Attendance: Pam DiBona, Paula Fratantoni, Janet Freedman, Steve Lohrenz, Justin Manley, Dave Townsend, John Trowbridge, Philip Trowbridge, Dave Ullman, and Mike Whitney **Calling in:** Dave Hebert

Other Attendees: Bruce Corliss, Ru Morrison, Jackie Motyka, Julianna Mullen, Colleen Roche, Tom Shyka, and Emily Silva **Calling in:** Carl Gouldman

Steve Lohrenz commenced the meeting at 9:01 AM.

Update from Bruce Corliss

University of Rhode Island, Graduate School of Oceanography (URI GSO)

Bruce provided an overview of projects and facilities on the GSO campus such as the Sea Water System, state nuclear reactor, the ocean engineering program, and the research ship, Endeavor. URI GSO provides programs for professional development, fisheries, ocean technology, management, and more. A modeling project funded by the Department of Homeland Security, and spearheaded by Dr. Isaac Ginis, will be assessing potential impacts from high-impact hurricanes. A five-year project, funded by The Rhode Island Consortium for Coastal Ecology Assessment, Innovation, and Modeling, will be modeling coastal ecosystem impacts in Narragansett Bay. URI recently joined the Cooperative Institute for the North Atlantic Region (CINAR), led by Woods Hole Oceanographic Institution (WHOI).

The R/V Endeavor is currently on a research cruise led by Heidi Sosik (WHOI). URI, WHOI, and the University of New Hampshire (UNH) are members, in addition to a number of associate level members, of the East Coast Oceanographic Consortium (ECOC). This group aims to promote research and education for its members by sharing resources and ship time. The projected number of days at sea for the Endeavor each year is 200, which in addition to research projects, would also include pilot projects and educational cruises with students. The National Science Foundation (NSF) is building three new research vessels, for the west coast, east coast, and the Gulf of Mexico. Each vessel will cost approximately \$125M. The ECOC has submitted a proposal for the east coast vessel, which will be the R/V Resolution.

The Center for Ocean Exploration and the Ocean Exploration Trust work in collaboration to offer tele-presence technology which provides a live video feed from on board the E/V Nautilus and the NOAA ship Okeanos Explorer. This provides the interactive ability for scientists on shore, teachers, and students in classrooms to view real-time explorations. URI is also interested in developing tele-presence opportunities for smaller vessels as well to expand the use and benefits of this technology.

URI GSO will be leading a new initiative, The Ocean Exploration Cooperative Institute, funded by NOAA to support the exploration, management, and understanding of and estimated three billion acres of US ocean territory. In addition to URI, UNH, Ocean Exploration Trust, WHOI, and the University of Southern Mississippi will be working together on this five-year undertaking.

The Coastal Resources Center focuses on promoting sustainability for communities, coastlines, and resources. Recently engaged in critical stakeholder outreach to discuss marine spatial planning and analysis around Block Island for a potential wind farm.

The URI campus will be undergoing updates, additions and changes. The master plan includes redirecting roads, moving parking lots, new structures, docks, and a marine operations building. There will be a series of new buildings that will include ocean engineering, ocean technology, and a robotics center.

Approval of the Minutes

Dave Townsend motioned to approve the May board minutes, seconded by John Trowbridge. The May 21, 2019 board meeting meetings were unanimously approved.

Operations Update

The NERACOOS office provided the operations update, led by Jackie Motyka. The Cape Cod Physical Oceanographic Real Time System (PORTS) will be expanding to include an Acoustic Doppler Current Profiler (ADCP) at the Massachusetts Maritime Academy pier. Woods Hole Group will be installing the ADCP this autumn. Pilots and other stakeholders have been identifying a strong need for more observations in the area. There is interest in getting a second wave buoy for Buzzard's Bay, in addition to the one in Cape Cod Bay, as well as another current profiler or tide gauge for the area.

The Coastal Ocean Modeling Testbed (COMT) project is a partnership with NERACOOS, UNH, and UMassD that will be coupling the water balance model from UNH and Northeast Coastal Ocean Forecast System (NECOFS) from University of Massachusetts Dartmouth with NOAA's national water model. The Ocean Acidification (OA) Thresholds project is also making progress, working with stakeholders to determine observational and modeling needs, and efforts continue to integrate biogeochemistry components into NECOFS to provide hindcast information for OA in the region. Both of these projects are in their second year of funding.

The NERACOOS operators meeting was a two-day event held at the Great Bay National Estuary Research Reserve (NERR) in Greenland, NH on August 6th and 7th. Roughly 30 people attended including NERACOOS staff, Principle Investigators (PI), and operators. Attendees discussed operational efficiencies, challenges, communications, opportunities for collaboration, regional plans, branding and more.

The Northeast Coastal Acidification Network (NECAN) is continuing in its activities. The working groups and steering committee hold regular meetings. Over the last year, NECAN has reviewed and revised its implementation plan. Shell Day is taking place today across the region. Shell Day is a collaborative effort of many different organizations to initiate a single-day monitoring event with citizen science monitoring groups taking measurements and collecting water samples at low, mid, and high tide. The collected water samples will be analyzed by various laboratories for total alkalinity. The data will be analyzed by UNH and a final report will be made available.

The Integrated Sentinel Monitoring Network (ISMN) has a new oversight committee which will act like a board of directors and will help to grow and sustain this effort. The first meeting of the oversight committee was held at Gulf of Maine Research Institute (GMRI) in July. ISMN recently received a Marine Biodiversity Observation Network (MBON) award to begin

implementing the ISMN model. The initial pilot project will include monitoring biological variables in the Gulf of Maine, and then using this information, as well as existing information to model the presence of the North Atlantic right whale. These are the first steps towards establishing the Center for Analysis, Prediction, and Evaluation (CAPE).

The Gulf of Maine 2050 International Symposium is quickly approaching in November. NERACOOS submitted a total of six abstracts for various projects. The Mariner's Dashboard is currently going through user testing with the intention to launch soon. NERACOOS continues to submit and collaborate with partners on proposals. Please reach out to the NERACOOS office for a full list of these proposals.

The next IOOS five-year proposal will be due around January of 2021. Planning for the proposal, specifically assessing stakeholder needs and reviewing existing efforts with PIs are already in progress. The proposal process was discussed at length and it was agreed that additional conversations are needed to examine the details of the proposed process.

Julianna has been continuing work on NERACOOS social media and communications, to clearly present goals, values, and successes, resulting in more advocates and funding opportunities for NERACOOS. Membership and engagement on the Ocean Acidification Information Exchange (OAIE) continues to grow since its launch in February of 2018. The NERACOOS audience and reach has also increased on Facebook and Twitter, generating more traffic on the NERACOOS website. A social media intern has created an Instagram account, further increasing the awareness and value of what NERACOOS does. Julianna has also been working on collaborative outreach projects such as Visualizing Ocean and Coastal Acidification Locally (VOCAL), a joint effort with Connecticut Sea Grant, NECAN, and the Mid-Atlantic Coastal Acidification Network (MACAN). VOCAL aims to produce conceptual models and infographics for the general public, industry members, and legislators depicting the drivers and impacts of OA in the Mid-Atlantic and Northeast Regions. This December is the ten-year anniversary of NERACOOS, to mark this occasion, Julianna and the NERACOOS office have been working on a new branding strategy. Julianna is creating a new, easy to use website as well as a new logo, tagline, and style guide for NERACOOS, with a soft roll-out planned for September and the official launch at the December annual meeting.

IOOS Program Office

Carl Gouldman provided the update for the IOOS Program Office (PO). Carl gave a brief overview of the IOOS strategic plan, which was introduced in 2018 and covers a five-year period. Work plans and objectives will be organized within the goals stated in this plan. IOOS has seen steady increases in the enacted budget and expects this trend to continue for Fiscal Year (FY) 2020. The IOOS PO core funding for the Regional Associations (RA) was \$41M for FY 2019, supplemented by COMT, Filling the Gaps (FTG), MBON, and Ocean Technology Transition (OTT) funding. FTG funds, which have also seen increases over the years, were prioritized for radar, gliders, and access to ocean observation data.

The IOOS Federal Advisory Committee held its first public meeting on August 21, 2019. The initial meeting scheduled for June had to be rescheduled pending renewal of the charter. Ru Morrison is a member of this committee. The second Ocean Enterprise Study is currently

taking place to better understand scope and value of business in the US that support ocean measurement, observation, and forecasting. Results of this study should be available in the summer of 2020. There is also a similar study to understand the benefits and monetary value of each of the Regional Association, a process the IOOS PO would like to repeat annually.

The IOOS PO is working with Ralph Raynor to develop an internationally agreed upon use case template to document end user success stories online with the eventual goal of building a library of use cases economists and others can use to create valuation reports. The NOAA Weather Research and Forecasting Innovation Act, in which IOOS is specifically mentioned, is being implemented and works towards promoting and supporting weather research. The Commercial Engagement Through Ocean Technology (CENOTE) Act is also moving forward.

New Federal Funding Opportunities (FFO) out now include OTT, COMT, and Alliance for Coastal Technologies (ACT). The Department of Energy (DOE) is working with NOAA and IOOS on an opportunity, which will be announced at ceanObs19, to advance technology for renewable energy.

IOOS Association

Ru Morrison provided the update for the IOOS Association. FY 2020 funding levels are still pending though there is currently a \$2M increase from FY 2019 from \$38.5M to \$40.5M. The Senate will take up appropriations bills in September. Reaching out to Congressional members at this time regarding the critical need for ocean observations would be very beneficial. The reauthorization of the Integrated Coastal and Ocean Observing System (ICOOS) Act is still pending in the House and Senate.

Finance Committee

Janet Freedman provided the update for the Finance Committee. Non-federal funding: ISMN has more budgeted than was spent and membership is ahead of what was projected. Federal funding: Nutrient Observatory and Regional Resilience, now closed, no budgeted funds, actual funds were de-obligated from one of the sub-awards. The final reports for both of these awards have been accepted by NOAA. COMT, and OA Thresholds are behind schedule, but should catch up before the end of this fiscal year. UNH OA is over budget but still in good shape. WHOI IFCB is under budget, but will receive a no-cost extension, University of Maryland (UMCES) is also under budget. Gulf of Maine Lobster Foundation OTT is on track. The 'Other Revenue' line item is for MyCoast and Shell Day. Salaries, fringe benefits, and travel are on track. Supplies are underspent, printing costs were removed from this bucket and put into indirect as it is used for many different projects. 'Other' is underspent but includes contingency funds for the Cape Cod Bay buoy, a surplus of \$84k.

It was brought up at this time by board members that finance policies should be checked to confirm what reserve/contingency funding levels are allowable by law for non-profit organizations. A discussion ensued on a plan for the depreciation of NERACOOS assets, how that should be handled in the event equipment needs to be replaced or updated, and the benefit of NERACOOS owned assets v. university owned assets. Diversifying funding opportunities should be looked into, recapitalization funds from IOOS, philanthropic

opportunities, etc. These discussions will be beneficial throughout the upcoming five-year proposal process.

Executive Committee

Steve Lohrenz provided the update for the Executive Committee. The Executive Committee has not had a meeting recently. Steve attended the recent NERACOOS operators meeting and took part in the branding discussions. A branding guide will be beneficial in recognizing sources of support and help unify messaging on the hill.

Nominating Committee

Emily Silva provided the update for the Nominating Committee. The current slate of nominations includes both returning and new nominees. Terms ending or Directors stepping down include Steve Couture, Justin Manley, Steve Withrow, and Lt. James Brinkley. Steve Lohrenz's term is also coming to an end but thinking of extending his Director and officer terms by one more year to assist in transitioning to a new president.

Final Thoughts

A discussion took place regarding the process and requirements for forming an advisory committee to inform the five-year proposal process as discussed above. The members of this committee should be unconflicted, or as unconflicted as possible, given the nature of the relationships between NERACOOS, PIs, and board members. The original plan was not to review each individual asset funded by NERACOOS, but it may be the most fair and competitive to include every asset in the review. This advisory committee could identify specific observational gaps and then target proposals that address those, possibly create levels or categories of proposals such as sustaining observations (buoys), filling the gaps, and brand-new initiatives. Jackie will create a doodle poll and share with the board for anyone who would like to participate in an initial planning call to get this started.

Next Board Meeting

The next board meeting is an in-person meeting in Portsmouth, NH on Thursday December 5, 2019.

Justin Manley motioned to adjourn the meeting, seconded by Pam DiBona.

The meeting was adjourned at 2:00 PM.