



## GCOOS Board Meeting Minutes: 2021

### FALL 2021: 26 and 27 October 2021 (Virtual)

#### 26 October 2021 Open Meeting

**Participants:** Board: Renee Collini, Alyssa Dausman, Sara Graves, Pat Hogan, Stephan Howden, Kate Hubbard (new board member, FWC Center for red tide research), Kirsten Larsen, Bill Lingsch, Ruth Perry, Antonietta Quigg, Joe Swaykos, Jan van Smirren, Nan Walker, Kim Yates; Staff: Jorge Brenner, Grant Craig, Bob Currier, Franke, Barb Kirkpatrick, Chris Simoniello, Nadine Slimak, Marion Stoessel, Jen Vreeland, Kerri Whilden; Others: Landry Bernard (USM), Just Cebrian, Marine Courtois (student), Brian Dzwonkowski (DISL), Rick Clark (FDOH), Jon Fajans (Bioanalytics-Caribbean), Laura Gewain, Frank (USM), Carl Gouldman, Sharon Herzka, Kenneth Hoadley (U AL), Gary Hurkens, Bill Kiene (former NOAA NMS MPAs), Tony Knap (GERG), B. Koza (TX Parks & Wildlife), Gerhard Kuska (MARACOOS), Chunyan Li (LSU), Brian LaMarre (NWS\_TP-WFO), Chad Lembke (USF), Mark Luther (USF), Carol Lutken (GCOOS OEC), Jean May Brett (GCOOS OEC, LA Dept Educ), Luke McEachron (FWC), Eric Milbrandt (SCCF), Frank Muller-Karger (USF), Troy Pierce (EPA GoM Program), Josie Quintrell (IOOS Association), Nancy Rabalais (LSU), Dave Reed, Tim Ramage, John Valentine (DISL, MS-AL SG, AL RESTORE COE), Oriana Villar (IPO), Ben Williams (Fugro), Yixin, Luz Zarate (RPS), Brian Zelenke (IOOS, HFR network), Freda Zifteh (Nortek)

**Joe Swaykos:** Launched the meeting by welcoming participants, taking roll, informing the group that the meeting would be recorded, and determined that the 14 board members on the call established a quorum. A motion was made by Sara to adopt the agenda as presented, second by Stephan, and all in favor.

**Josie Quintrell,** Executive Director IOOS Association, has been advocating on the Hill and less formally in the regions. Each RA has two members representing them in the IOOS Association—the RA Director and Board Chair. It's a new decade figuring out priorities for the next Strategic plan 2021-2026. The main goals are to increase funding to IOOS by 100%; increase coordination across regions; increase visibility (new communication strategy); build awareness about how observations are making a difference in people's lives; increase diversity/JEDI; work on appropriations with the fill the gaps campaign--\$8M over 4 yrs; appropriations infrastructure bills are making way through Congress; Bipartisan infrastructure and Build Back Better negotiations are underway; FY 22 appropriations Continuing Resolution through Dec 3<sup>rd</sup>; IOOS sent Build Back Bluer information; fill the gaps and modernize infrastructure, surface current mapping, profiling gliders, HABs, framework for NOAA NCCOS & IOOS forecasting; \$20M IOOS funding-GCOOS 1 of 5 pilot programs of the HAB Observing Group, 2021 \$2.5M

--\$1M of this in the GoM b/c of Senator Shelby funds to AL, continuing support for HABs in FY22; IOOS addressing how shifting coastal climate signals are manifesting in different regions; SLR, HABS, fisheries, marine heat waves, IOOS DEIA fellowship to amplify work being done—one person to focus 100% of time; working on new communication plan for IOOS Association; what happens after Fill the Gaps campaign ends? What is next?

DISCUSSION: Renee commented about filling the gaps—not to forget about existing observing infrastructure that is aging and in need of O&M funds; these long-term stations are in danger of going offline. Nancy comment: HABs –ecological forecasting and impacts are important; Stephan asked if increased funding would be locked into supporting ongoing observations and products; there are inequities in what is currently received in annual funding. Josie replied that some of this has been addressed over the years but there are still issues of concern.

**Carl Gouldman**, Director IOOS Program office; key legislation driving IOOS, IOOS Act, administration priorities, weather Acts 1 and 2, Blue Economy ocean enterprise, CENOTE, R&D COMT; For equity, ability to have access to technology information is just as important as the information itself; Dr. Spinrad provided court testimony showing observation priorities, Navigation, Observations and Positioning funds in new Congressional budget; GCOOS hurricane damage requests should be passed and confirmed in about a week or two; effort in NOAA for ocean observing using uncrewed systems; still waiting on appropriations, infrastructure bill and reconciliation. Need to be able to connect up programs and not use funds in stovepipe fashion; Ocean Enterprise first one in 2015; New Blue Economy as information economy; value chain of producers, intermediaries, end-users; Dr. Spinrad said our ocean can save the world (in reference to economy and climate); high support for IOOS now—more than ever; compared to 40 yrs ago, average time between billion dollar disasters has significantly decreased; Large funding increases to NOAA—Marine Life Program, MBON, ATN, working to ID and define what operational biological system means—working with MBON to do this; there are several initiatives out there that we need to watch and connect with—within NOAA and outside NOAA programs; Climate and Fisheries Initiative—MBON conditions reports would be rolled into this; Will there be a new RFP process for RAs for all the additional funds? No process has been identified yet.

DISCUSSION: Joe asked that if given the potential for increased funding and expansion of projects and staff, is there concern about attracting new folks into the IOOS world? Is it hard to find quality staff? Carl says he's been thinking about this a lot; rates of attrition in his office—Sea Grant selection week; trying to get a Fellow to start in February—only 9 interviews but very qualified; attractive place for people to work in the ocean space. He believes we will be able to hire b/c demand for climate information is increasing; offshore wind energy enterprise requires all aspects of skills; we need better IOOS-cross group collaborations; Can Carl make recommendations about how to work better across agencies? Pat—even if can get qualified people, this requires substantial funds; The challenge is carving out money for specific topics that IOOS has a role in; we know most RAs are understaffed; \$500m in coastal inundation and SLR—5-6 NOAA offices with a hand in this and supposed to work together; we need to build integrated services plan together.

**Jorge Brenner**: Has been on the job for 2 months; presenting work of the team from the past six months; GCOOS has high human capital; Kate Hubbard is new to the board; we are saying goodbye to Mike Lee and Steve Buschang; updates were provided on staffing, the budget descope submitted to NOAA, the 13 subawards made, data management, Marion Stoessel's data processing efforts,

HABscope and HAB observing progress, GCOOS glider pilot tool (GANDALF), and outreach and education; The spring BOD meeting is planned for New Orleans, pending the ability to travel.

DISCUSSION: Joe commented that he is amazed by how delivery-oriented GCOOS is; the entire team makes a great effort to respond and react to what the user community really wants; he extended kudos to the staff for all they do.

**Bill Lingsch & Kerri Whilden:** Provided an overview of the purpose of gliders and the hurricane decision tree--tracking essential ocean features to improve forecasts; observations/data are targeted to support ocean models; the team has data showing how glider data are reducing error of models; there are several planned glider missions in different regions; Kerri- mid-August to mid-October mission focus to get peak storms in the GoM; also need ocean data ahead of storms; would like to focus on getting out earlier—ahead of hurricane season; it is tough to be reactive to gliders; for example, if there's a storm in Mexico or the Caribbean and it's fast moving, need several days ahead of the storm b/c of sea state; usually need a smaller vessel b/c it's tough to deploy from large ships; typically USF & MML deploy every few months for 30 d, usually for red tide; assets earlier in the season vs later in the season increased; Ida and Nicholas were tough storms; Navy glider was out collecting data for Ida; partners at Rutgers are doing model data comparisons (RTOFS & GOFS).

Joe thanked people for joining and wrapped up for the day.

### **27 October 2021 (Closed Meeting)**

**Participants:** Board: Renee Collini (early departure), Alyssa Dausman, Sara Graves, Pat Hogan, Stephan Howden, Kate Hubbard, Kirsten Larsen, Antonietta Quigg, Nick Shay, Joe Swaykos, Jan van Smirren, Nan Walker, Kim Yates; Staff: Jorge Brenner, Felimon Gayanilo, Barb Kirkpatrick, Chris Simoniello, Jen Vreeland; Other: Gabrielle Canonico, Carl Gouldman, Josie Quintrell, Bill Woodward (joint for his presentation)

Bob (?)

**Joe Swaykos** welcomed the group back. He is hoping to meet in person in NOLA in April; IOOS is adding a lot of new elements such as the Marine Life Program but other priorities are not going away—we need to prioritize because funds/staff size do not reflect the increasing scope of activities.

A motion was made by Stephan to accept the agenda for the closed meeting, second by Jan and all in favor.

**Jan van Smirren** provided the Treasurer's Report for the non-profit. Keeping the NGO status gives agility to act quickly in response to funding options, especially foundations. It's also a way to offset IDC at TAMU and leverage the rate we get; directors are members of the corporation and must adhere to guidelines; breach of these has penalties in the state of TX; Conflict of Interest is a serious matter; Wells Fargo \$175K balance; balance and bank statements are reviewed by the EXOMM on a monthly basis to make sure they match; Jan is working on federal tax forms now; the lawyer we use in College Station recently left so we need to select a new one for the corporation; there are two bank accounts, a savings

and checking account; running cost of the 501 c3 is between \$1K and 2K/yr—depends how much revenue is passing through the organization; Once NAS GRP money is spent, filing taxes will be simpler; Jan uses QuickBooks for accounting; general account, three special accounts-Matt Howard Scholarship, NAS Loop Current project, TAMU-CC subaward for Stones; Matt's scholarship funds students to attend conferences; NAS subcontractors have a \$154K balance, \$123K of this is for contractor payout; Stones has submitted all invoices, leaving a balance between \$300-400 dollars.

Questions: Joe asked if we have an active program for recruiting students to take advantage of the Matt Howard fund; Pre-covid, we advertised in various places (enews, social media, communications of partner programs, etc.); Because NAS paid out all money at the beginning of the project, Jan was able to put a lot in savings and earn interest so there is more available. AGU fall meeting has opportunities for student scholarships; how can we advertise in Gulf-wide graduate student science programs?

A motion was made by Renee to accept the treasurer report as presented and file for audit and second by Stephan. All are in favor.

**Carl Gouldman** reviewed some of the budget numbers from yesterday's summary; \$6.7M extra funds (BOEM, EPA, NMFS...)--Regional Ocean Partnerships & OA programs are the biggest items to fund; RAs got ~\$4M but now waiting for the committee mark (house and senate) and reconciliation between two; uncertain if there will be a continuing resolution; CURL—trying to build a systematic spreadsheet to understand unfunded national needs in the system; being asked by advisory committee how do this; prioritize, justify spending, also doing scenario planning to figure out how to move money quickly if receive it; Expect more clarity on the budget by mid-November to December; also watching infrastructure and reconciliation bills to see how we can work across programs in NOAA that have equity in items identified in bills.

QUESTIONS: Joe asked if Carl could provide an overview of the federal advisory committee and how IOOS interacts with them; not just RA asks but who is on the committee, what processes are followed, etc.; Scott Rayder is the chair, Sara Graves is vice chair; new members are coming on board for better representation; agendas are published in advance, meetings are public, and the committee makes recommendations (there's a list from Congress in the coastal ocean act for the committee to consider); e.g., monitoring of noise in the ocean (from Congress); the committee meets 2x/yr in person; once in DC so also do side meetings; can't meet on Hill with FAC hat on but can meet as individuals; second meeting is held in one of the IOOS region—usually get out in the field when do this; the group produces recommendations, NOAA writes letter back in response to recommendation; Dave West, Bob Whittaker, former Navy—are asking about how we manage requirements; Molly Mcannon, Ruth Perry, Oscar Schofield are active with Scott Rayder; the inter-agency committee is chaired by NASA, NSF and NOAA (David Legler, Director GOMO program); there is an avenue for the Navy to use our FACA for citizen components of mission.

Jan asked Carl about BSEE external funding for NTL data management. This is an operational requirement and must be done. If not funded, it will compromise our ability to do other things. Carl is working on BSEE funding for this; he said it's on his list but that he does not expect to get money. GCOOS needs to provide specific, clear costs on what is needed; Carl will try to find resources outside of BSEE; Jorge said we have new estimates and will send to Carl; Joe says currently only 40% of NTLs passing QA/QC; need an in-person meeting with BSEE; Jan, Ruth, and Felimon can talk the language from the operators point of view; Fugro, RPS, and BFT are the main ones sending data to us now;

Stephan said that on the NDBC site, there is no message sending people to GCOOS; need to remedy that; NDBC is in the process of hiring a new director but not yet official so don't expect changes soon.

Carl asked if GCOOS has a method for stocking spare items/replacement parts; Instruments like HFR are highly vulnerable to weather; what is the cost to weather harden sites? HFR is a tremendous tool but down as much as up; in the hurricane supplemental, GCOOS made a request for hardening and redundancy but it did not fly up the flagpole. With no O&M funds, we at least need redundant systems; the repair and replace regime hasn't been great; MARACOOS has more of a density strategy—a lot of overlap so if one goes down, others pickup; the question was raised as to whether we are getting enough bang for the buck out of what we have; Are funds there for HFR experiments—testing utility/applications? Have not been in the past; if asking for these things, need to build in costs to tackle; Nick—Irma supplemental funds arrived late—just in time for Covid so struggle to get 3 sites operational; now installed but took time; What is the cost of doing this? What will we have to stop doing if we invest more here? Long-term, 20 yr data sets will be lost—who is going to pick up the slack as systems become vulnerable to budgets? Need to identify what will get lost and what others might pick up the cost; Stephan said the SW pass issue with Fugro was Covid related b/c can't get to the station; current issues are a combination of hurricanes and the pandemic; H. Laura damaged a lot of observing infrastructure—HFR, water level gauges, other obs assets; need sentinel sites which could be a partial solution to HFR vulnerabilities; infrastructure funding should support more of these WL, HFR and met stations; CODAR SBIR at TAMU for long-range single antenna solution; CO-OPS WL gages, lack of O&M for these stations too; Nick-back to radars—radio currents and vector currents collected but so much more can be done—e.g., king tide—in Miami—we can map out tidal currents and try to mitigate but no funding to do this; data can be really useful—put hurricane issue aside—more than one-trick pony; many applications to benefit the public; SECOORA funds just keep the lights on—can do so much more; Stephan says we can't try to stop all the problems but we can identify them and put RFPs out there to address them. Kate-FWC workshop in May—good opportunity to discuss how best to integrate new technologies like Saildrone more formally into obs system; Josie asked if this should be a topic at the next IOOS directors meeting; Pat says we should also look into DARPA's Ocean of Things focused on cheap, biodegradable drifters.

**Josie Quintrell and Bill Woodward:** Marine Life Program: There is a request in the president's budget to support a marine life program, primarily for funds for research and DM. How would funds be implemented? Build on RA activities and MBON, ATN, biodiversity, animal movement, LMR questions—what's there, who's there, how many, where coming from, where going, where aggregating and why all this is happening? How is environmental change impacting distributions? Stakeholders want information, not data; ability to integrate with biogeochemical, physical...find efficiencies in ability to collect information, especially difficult-to-reach areas; acoustics, omics, imagery, tagging, AI, machine learning—looking at all of these; establish base level observations; regional and national portals, Data Assembly Center—how best to coordinate cyberinfrastructure and product development for marine life? Inter-agency collaborations through NOPP? National coordination/priorities balanced with regional needs; Bill commented that it's been a long awaited opportunity to put together a sustained biological obs program in IOOS; its' been in strategic documents for a long time; many things can be done/measured and there are many ways and places to do this; it will be a process not an event over time to create; need to harmonize the path forward with RAs and others.

DISCUSSION: Stephan asked if they could expand on the cyberinfrastructure need—what do you think is specifically needed for this project? Gabrielle says there are multiple components—better unifying

portals –MBON, ATN, RAs with marine life info management; What functionality is needed? Open to discussion; Developing a cadre of people who can support ingest of data into a platform—data wranglers in RAs, help data providers align standards, also thinking about how to link to passive acoustic data, other relevant repositories to enable integration of diverse data; Bill said the importance of this is the ability to assemble data so it can be easily transitioned to products; need to couple biological data with physical/chemical data; tried for funding from RESTORE but unsuccessful so far; question-have you come across good examples of people who have coupled these data in models and answered more complex questions? Modeling data around for many years—in GoM, many long-term data bases—ie SEAMAP is multi-decadal. Have you thought about how something like this will have a role in the GoM to get us started? SECOORA is working with SEAMAP to make more accessible; can we collaborate there? Modeling—any examples? Bill doesn't have one nor does Gabrielle; notion of integrating is high on the priority list; Nick—colleague tags tarpon to determine where moving; asked if tarpon really like 26C isotherm; tags on tarpons now providing data to ID 26C isotherm; this information also helps Nick with hurricane science; Bill said this is the essence of the integration of information. Kim-we (USGS) have all this biological data from many contributors for corals and marine mammals; benefit is consolidation and sharing across monitoring methods; are there going to be more specific committees for species of interest to consolidate information? Core essential variables—who is doing this, how are they doing it, is there integration with other variables? Gabrielle said task team is under the IOOC—corals and mammals are a place to start; EOVs is a longer list; working on how to bridge across federal agencies and contribute to the global community; a lot of parallel activities; working to link some together; Gabrielle says there's been progress getting at best practices for different parts of the challenge; how are we going to prioritize species at the RA level? Jorge commented that it depends on the direction we go, e.g., commercial vs charismatic species, Highly Migratory Species related to management actions, many possibilities. Jerry Ault (UM) has a publication out about yellowfin tuna tracked for 26 days.

Joe thanked the invited speakers, provided closing remarks to the board and asked for a motion to adjourn. Sara made the motion, Pat second and all in favor.