Ecosystem Observations

T2 IRA Pan-Regional Collaborations

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Structure of the Talk

- Previous working sessions
- Broad description and objectives of each EcoObs theme
- Specific projects / data streams being developed
- Open questions about…
  - Areas of collaboration
  - Standards
  - Products / Users
  - Others
- So! Get ready to talk :)

Previous Sessions

Harmful Algal Bloom Data Assembly Center
Clarissa Anderson

GliderDAC- System Hardening, V2 Features
Leila Baghdad Brahim and Sarina Mann

Sanctuary Watch: a new web architecture
Jai Ranganathan

Data-Driven Climate Readiness
Tigist Jima

IOOS Cloud Sandbox
Annalise Keeney

Erddap2agol - *Jared King*

Unidata / THREDDS - *Sean Arms*

Performant Time Series Extraction and Data Visualization from Operational Gridded Datasets
Shane St Savage

Expansion to a Nationally Coordinated IOOS PAM Network
Lindsey Peavey Reeves, Carrie Wall Bell and Xavier Mouy

Cloud Related DMAC
Jonathan Joyce and Kelly Knee

Marine Life Data Network
Matt Biddle

Offshore Operations DAC
Kelly Knee, Riley Morse

Telling a Story with your Data: Web Portal Dashboard Integrations
James Doyle

Unidata / THREDDS -
Sean Arms

NDBC Updates
Stephanie Ray

IFCB Data Repository and AI-Classifier
Felimon Gayanilo

ERDDAP Updates
Chris John

Community Engagement Approaches
Tim Kearns, Matt Biddle

N-PAcT - Northeast Pacific Acoustic Telemetry Node
Ryan Logan

Coastal Safety Mobile App
Tim Kearns, Joe Smith

FathomNet: Ocean Visual Data - *Henry Ruhl*

MBON Working Groups

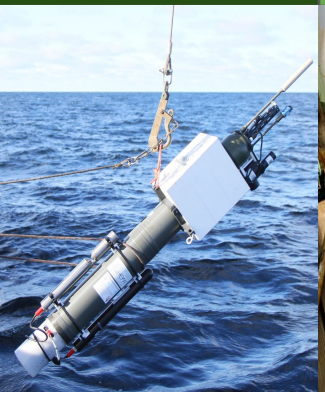
- eDNA: environmental DNA (Luke Thompson)
- DMAC: Data Management and Cyberinfrastructure (Matt Biddle)
- Remote sensing/Seascapes (Dan Otis, Eurico D'Sa, Maria Kavanaugh)
- BioTrack (Neil Hammerschlag, Megan McKinzie/ATN)
- BioSound (Neil Hammerschlag)
- Indicators (Ben Best)
- Stakeholder engagement (Chris Simoniello & Jorge Brenner/GCOOS, Jen Dorton /SECOORA)

Ecosystem Observations

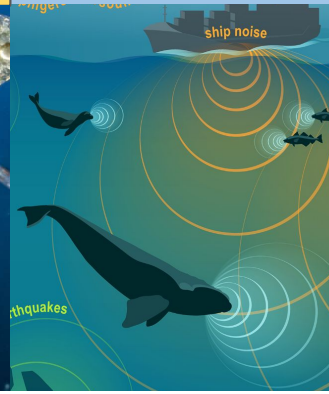
Expand the **monitoring of environmental factors** such as water column structure, heatwaves, marine life, and biogeochemistry to support decisions that protect the economy, maritime safety, and coastal and Great Lakes livelihoods

Based on meeting the needs of partners and requiring collaboration across RAs and with many others

BGC on Fixed Platforms	Mobile: BGC and Water Column	eDNA	HABS	Plankton	Acoustics





SOUTHERN CALIFORNIA COASTAL OCEAN OBSERVING SYSTEM

CARICOOS

NERACOOS
NORTHEASTERN REGIONAL ASSOCIATION OF COASTAL OCEAN OBSERVING SYSTEMS

SECOORA

PacIOOS
PACIFIC ISLANDS OCEAN OBSERVING SYSTEM

AOOS
Alaska Ocean Observing System

GCOOS
GULF OF AMERICA
COASTAL OCEAN OBSERVING SYSTEM

20 YEARS

CENTRAL & NORTHERN CALIFORNIA OCEAN OBSERVING SYSTEM

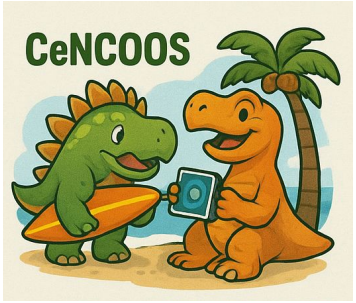
NANOOS
Northwest Association of Networked Ocean Observing Systems

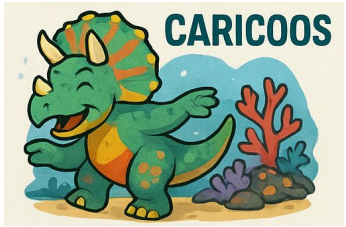
great lakes observing system

MARACOOS
Ocean Information for a Changing World

GCOOS

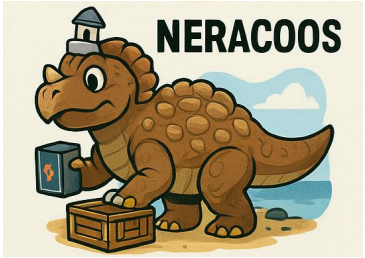
SECOORA





NANOOS

MARACOOS



PacIOOS

Biogeochemistry - Fixed Moorings

Objective: Expand the monitoring of environmental factors such as pH, temperature, dissolved oxygen, and others on fixed moorings to better understand localized trends, support the expansion and development of ecosystem models, and minimize data gaps in national products.

AOOS
Alaska Ocean Observing System

CARICOOS

GCOOS
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Biogeochemistry - Fixed Moorings

AOOS
Alaska Ocean Observing System

Southeast Alaska Ecosystem Observatory (SEAK-EO)

TECH: Installation of up to 7 CTDS (Sea-Bird Scientific Microcat CT sensors) at seven NOAA operational National Water Level Observing Network stations in southeast Alaska

DATA PLAN: AOOS and Axiom are managing CTD data streams using FAIR and CARE principles. AOOS Data System automates ingestion of real-time observations, data access provided through public-facing AOOS Ocean Data Explorer (ODE)

GCOOS
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20 YEARS

Expansion of OA monitoring in Gulf and development of GCOOS OA monitoring network - Galveston Bay Pilot

TECH: Ocean Acidification observatory; pH sensors

DATA PLANS: Published in GCOOS ERDDAP, establish data channel from USGS. As part of GCOOS' long-term data management, data stored in GCOOS repositories will all be
archived with NCEI

Biogeochemistry - Fixed Moorings

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SOUTHERN CALIFORNIA COASTAL OCEAN OBSERVING SYSTEM

Heat Waves

TECH: Thermistor String Assemblies on CARICOOS oceanographic data buoys

DATA PLAN: CARICOOS Data Management System (DMS) operates as the Caribbean Regional Data Assembly Center. Data is in standardized forms through CARICOOS THREDDS / OPeNDAP and ERDDAP servers

Biogeochemistry Shore Stations

TECH: New Nitrate, pH, DO, and Chl-A sensors to 4 automated shore stations

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Expansion of BGC monitoring & Biogeochemical Modeling

TECH: pH/Total Alkalinity sensor and advancing NeBEM toward operational status

Biogeochemistry - Fixed Moorings

What are the data standards we need to be aware of for BGC data?

- Resources from NOAA's Ocean Acidification Program linked here and from PMEL linked here
- Essential ocean variables (detailed descriptions of specifications) - GOOS
- IOOS metadata profile (contact info, operator, proper standard names)
- QARTOD for pH and etc.
- GOA-ON Global Ocean Acidification Observing Network
- Lat and Long for Station Location
- BGC Argo - Emily Emith
- NSF OOI - BGC Best Practices Document under review at GOOS

Biogeochemistry - Fixed Moorings

Where are people meeting / discussing BGC datastreams and their applications?

For example: *Many RAs already participate in MBON working groups are there others?*

- GOMO supports open ocean moorings; OAP, GOMO, and PMEL collaborate to ensure consistent data standards
- OAP brings together the NOAA Ocean Acidification Observing Network (NOA-ON) coastal moorings community annually
- NOAA OA Working Group
- BGC Argo Working Groups
- GOOS EOV BGC Panel
- OOI Meetings
- ***Link in Chat***
- Ecosystem Moorings Document - IOOS (Reference)

Biogeochemistry - Fixed Moorings

Who are the user groups interested in this information and its application? What are some relationships we need to develop to make sure this data gets where it needs to go?

- OAP, OCADS
- Ocean Carbon BGC
- SUPREME
- NERRS Program , Regional Estuary Partnership Program
- Ecosystem Model (used for ecosystem based management), Fisheries Management Councils
- Tribal, State, Local Managers, Public Health Authorities (HABs), Shellfish Growers
- UN Decade Programs (OASIS) OARS, GOOD, Marine Life 2030
- Oyster of Shellfish Growers
- IMBER Group
- Regional Coastal Acidification Networks
- Sanctuaries

Biogeochemistry - Fixed Moorings

What are some national products that would be interested in this information?

Audience Response:

Ocean Carbon and Acidification Data System (OCADS) within NCEI
IOOS Data Catalog
IOOS Sensor Map
ESRs (Ecosystem Status Reports) - NOAA
Sanctuary Watch
Sanctuary Condition Reports
Ecowatch OA dashboard
Coastal OA models

Mobile Moorings: BGC and Water Column Profile

Objective: Expand the monitoring of environmental factors such as pH, temperature, dissolved oxygen, and others on mobile moorings to track and identify water mass specific properties and test new sensors

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20 YEARS

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SOUTHERN CALIFORNIA COASTAL OCEAN OBSERVING SYSTEM

NANOOS

Northwest Association of Networked Ocean Observing Systems

PacIOOS

PACIFIC ISLANDS OCEAN OBSERVING SYSTEM

Mobile Moorings: BGC and Water Column Profile

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GCOOS GULF OF AMERICA COASTAL OCEAN OBSERVING SYSTEM 20 YEARS

BGC Observations with Underwater Gliders

TECH: Utilize underwater gliders for year-round BGC data collection

DATA PLANS: CARICOOS Data Management System (DMS) operates as the Caribbean Regional Data Assembly Center. Data is in standardized forms through CARICOOS THREDDS / OPeNDAP and ERDDAP servers

USF Subaward - Gulf Ecosystem Monitoring with Underwater Gliders

TECH: Gliders, CTD, data, Fluorometer, DO, and other sensors

DATA PLANS: Data in netCDF files published at the Glider DAC from at least 90-glider day multi purpose missions in five years. Mission and sensor data will be available in GANDALF (https://gandalf.gcoos.org/), GCOOS' piloting tool in real time and sent to the IOOS Glider Data Assembly Center (DAC).

Mobile Moorings: BGC and Water Column Profile

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BGC Sensor on Gliders in CENCOOS and SCCOOS

TECH: NanoFET pH and one miniISUS nitrate sensor

DATA PLANS: QC is completed for T,S, and oxygen by SIO, MBARI will conduct quality control for pH and nitrate data. Manual inspection to flag erroneous data (e.g. spikes, clogs), and apply a data adjustment based on 450 m measurements

Mobile Moorings: BGC and Water Column Profile

CENTRAL & NORTHERN CALIFORNIA OCEAN OBSERVING SYSTEM

NANOOS Northwest Association of Networked Ocean Observing Systems

BGC Sensing on Trinidad Head Glider Line (w NANOOS)

TECH: Nitrate and pH sensors onto Seaglider

DATA PLAN: Place Based Management Data Specialist focused on achieving EcoObs goals to integrate data into various systems including HABDAC, N-PACT, OTN, ERDDAP, Ocean Biodiversity Information System (OBIS) and other repositories

BGC Sensing on La Push, Trinidad Head (w CeNCOOS), and WA Shelf Gliders

TECH: Nitrate and pH sensors onto all gliders (Seaglider and Slocum)

DATA PLAN: NANOOS datasets meet NOAA Data Certification requirements, maintaining IOOS Metadata Standards v2.1, and implementing relevant QARTOD tests.

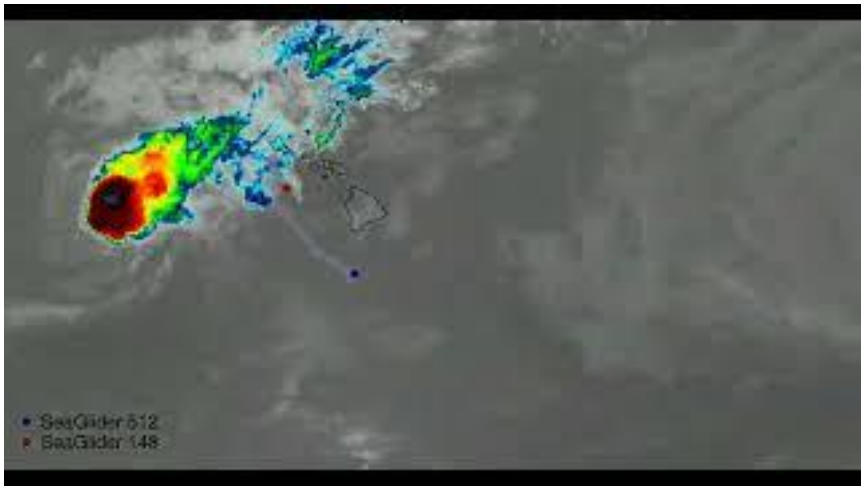
Mobile Moorings: BGC and Water Column Profile

PacIOOS
PACIFIC ISLANDS OCEAN OBSERVING SYSTEM

Enhance tropical storm forecasting with Seaglider data

TECH: Glider deployment in Guam and Hawaii

DATA PLAN: Providing real-time water column information; Data served through IOOS Glider DAC and PacIOOS data services; Integrate datastreams into Glider DAC, following other RA efforts



Fall 2024 storms- honed operations & data flow

Mobile Moorings: BGC and Water Column Profile

What are the data standards we need to be aware of for BGC on mobile moorings data?

- Mobile Platforms
- Glider DAC- QAQC (may not cover BGC) but covers other essential variables S and T
- Ocean SCITES (Or **SITES**) **fixed**
- CF conventions, All relevant IOOS requirements
- Ocean gliders 1.0
- USV UAV Working Group out of Scripps
- UG2 (COL)

Mobile Moorings: BGC and Water Column Profile

Where are people meeting / discussing BGC datastreams and their applications? Mobile?

- BGC Argo Program
- UG2
- OCB Meetings / Community
- Accelerator Meetings - Tech folks brainstorming
- MTS
- OMAO UxS Program monthly meetings
- NOAA OA Working Group

Mobile Moorings: BGC and Water Column Profile

Who are the user groups interested in this information and its application? What are some relationships we need to develop to make sure this data gets where it needs to go?

- **Similar to previous slide**
- **BGC modelers**
- **Fisheries**
- **Aquaculture**
- **Weather Forecasters?**
- **Stanford Center for Ocean Solutions Accessible Technology Working Group**

Mobile Moorings: BGC and Water Column Profile

What are some national products that would be interested in this information?

Specifically: *Many RAs plan to integrate this information into their local data hubs, but are their other national products we could contribute to?*

- **Climate Ecosystem Fisheries Initiative (CEFI)**
- **Glider DAC**
- **Modelers - NTL Program with oil and gas industry**
- **(Climate in Fixed Moorings)**
- **Event Response**
- **Offshore Leases / Operations - BOEM**
- **mCDR**
- **Ecosystem Assessment - Approach Fisheries Management**

Mobile Moorings: BGC and Water Column Profile

What should we be thinking about in terms of new technology development and DMAC?

- Darwin Core
- OBIS standards for OA
- Crossshore / Alongshore (look across scales)
- Formally integrating BGC into Glider DAC

Advancement or application of QARTOD for BGC Obs

eDNA

Objective: Improve and expand the use of eDNA techniques to support effective ecosystem management, including assessing biodiversity and develop baseline datasets.

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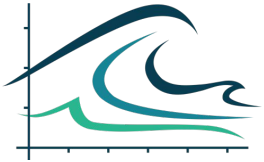

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eDNA

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PAM and eDNA for Coral Reef Biodiversity and Ecosystem Health

TECH: Sentinel Reef eDNA barcoding with UC Santa Cruz

DATA PLANS: CARICOOS Data Management System (DMS) operates as the Caribbean Regional Data Assembly Center. Data is in standardized forms through CARICOOS THREDDS / OPeNDAP and ERDDAP servers

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eDNA - Time Series

TECH: weekly phytoplankton eDNA measurements

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Metabarcoding marine life with eDNA

TECH: Metabarcoding of eDNA in Downeast Maine and at two NERRS.

eDNA

What are the data standards we need to be aware of for eDNA information?

- It's not just the data! See here for 'omics sampling, primers, processing, curation, and archiving resources: NOAA 'Omics Technical Portal in addition to the NOAA Omics Data Management Guide
- Darwin Core and the DNA-derived data extension to share these data to OBIS and GBIF
- FAIR eDNA metadata checklist
- Better Biomolecular Ocean Practices (BeBOP) for sharing version-controlled laboratory protocols
- National Center for Biotechnology Information (NCBI) repository for sharing raw sequence data
- National eDNA Strategy
-

eDNA

Where are people meeting / discussing eDNA datastreams and their applications?

- Standardizing Marine Biological Data WG - General resource for standardizing any marine biological data to Darwin Core
- MBON eDNA WG - Space to discuss data approaches and protocols. Luke Thompson (Luke.Thompson@noaa.gov)
- OBON - UN Decade
- Marine management eDNA Forum / Workshop - eDNA applications
- National eDNA meeting (Johns Hopkins and Smithsonian)
- OCB eDNA discussions

eDNA

Who are the user groups interested in this information and its application? What are some relationships we need to develop to make sure this data gets where it needs to go?

- Marine resource (e.g., sanctuaries, fisheries) managers at all levels (local/state/federal), biodiversity researchers.
- Fisheries
- FBI
- NERRS and Sanctuaries
- Conservation Groups
- DOE
- Indigenous Communities
- BOEM
- Aquaculture

eDNA

What are some national products that would be interested in this information?

Depends on the taxa being detected.

- International / any taxa - Ocean Biodiversity Information System (OBIS) and Global Biodiversity Information Facility (GBIF)
- HABs products if using eDNA to look for HAB species.
- NCBI
- Corporate Interest Sustainability Applications (last slide)

HABs

Objective: Expand *in situ* measurements to predict and understand harmful algal blooms, including frequency

HABs

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great lakes observing system

Axiom Subaward work on HAB DAC

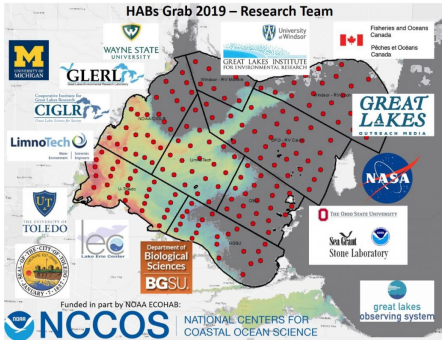
TECH: Develop batch mode style of ingestion to a streaming data model

Data Plan: A nationally scalable HAB data processing and portal system - building on prototype system established through completed NCCOS funded effort

HABs Grab

TECH: Water sample analysis

DATA PLAN: Integration of HABs data into Seagull, including cyberinfrastructure upgrades



HABs

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HAB Monitoring, plankton imaging:

1) Lightfish System expansion from WA to OR

2) Cooperative Fisheries Research fishing vessel sampling expansion from OR to WA

TECH: Seasats Lightfish Autonomous Surface Vehicle (ASV), and custom APL HAB water sampling system (WSS); Fishing Vessel Samplers - IFCB Analysis

DATA PLAN: PNW Bulletin, CFR Data Dashboard, interested in regional HABDAC / portal

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HAB Detection

TECH: TBD, tentatively deployment of an IFCB on a AUV or wirewalker. Data will be in HAB HUB.

SOUTHERN CALIFORNIA COASTAL OCEAN OBSERVING SYSTEM

Imaging and HABs

TECH: Imaging Flow Cytobots

DATA PLAN: HAB Data Assembly Center (HABDAC)

HABs

What are the data standards we need to be aware of for HABs information?

- Darwin Core to share occurrence data to OBIS
  - CenCOOS prototype workflow for IFCB data
- SCCOOS - HABDAC Standards
- IFCB Working Group / OCB
- Marine Data Cluster / Biological Data Standards Cluster
- Data Management efforts through NHABON
- IFCB (document) Stace
- NASA Working Groups - Alie Chase and Angie White (University of Hawaii)

HABs

Where are people meeting / discussing HABs datastreams and their applications?

Audience Response:

Communities of Practice around IFCBs
IOC / Global HAB in Sweden
Global HAB Scientific Steering Committee
NHABON
SMBD Working Group

HABs

Who are the user groups interested in this information and its application? What are some relationships we need to develop to make sure this data gets where it needs to go?

- Shellfish managers, water district managers, city and county and state health departments, shellfish growers, NWS, tourism groups, recreation and commercial harvesters, Tribal officials
- GOOS for BioEco EOVs
- NASA for validating PACE satellite data
- Biodiversity/ecology researchers
- IPHAB Internationally with Government to look at HABs
- Conservation Groups
-

HABs

What are some national products that would be interested in this information?

- Congressional mandate for a national data portal for freshwater HABs, NHABON efforts, to feed HAB forecast models
- International product - IOC-UNESCO Harmful Algae Information System
- OBIS and GBIF
- HAEDAT

Plankton

Objective: Expand baseline information for planktonic trends, including presence of various phyto and zooplankton species

Plankton

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Farallones Institute Subaward work on "Zooplankton Indicator Data" from Glider ADCPS (J Dorman)

DATA PLAN: CUGN ADCP data, CalCOFI net data, CalCOFI acoustic data for krill- create unique zooplankton data product from archive of California Underwater Glider Network ADCP data

Shadowgraph Deployment / MBON

TECH: *in situ* plankton shadowgraph to be deployed on a wirewalker.

DETAILS: Assessment of shadowgraph for streamlined plankton monitoring efforts

Plankton

What are the data standards we need to be aware of for plankton information?

- Acoustic Zooplankton Record
- Standards for ADCP
- Darwin Core
- Global Plankton Conversation
- Taxonomy Libraries
- Continuous Plankton Recorder
- TDWG

Plankton

Where are people meeting / discussing HABs or plankton datastreams and their applications?

Same Groups as HABs
PICES / ICES
Communities of Practice around ICFBs

Plankton

Who are the user groups interested in this information and its application? What are some relationships we need to develop to make sure this data gets where it needs to go?

- Same as others
- Plankton Community Needs for Information
- Fisheries Management
- Scientific Research Community / Education
- Modeling
- Adding from Proposals
- Sanctuaries
- Marine Mammal Protection
- NERRS
- Industry - Offshore Operations - Northeast

Plankton

What are some national products that would be interested in this information?

- IOOSCCG

Acoustics

Objective: Invest in data structures and deployments to expand and streamline data sharing across regional efforts for acoustic data

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Acoustics

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Northeast Pacific Acoustic Telemetry (N-PAcT) development

Develop centralized data sharing and management system for acoustic telemetry users on the Pacific Coast of the U.S., including streamlining data integration, sharing, archiving, and interoperability with large international acoustic databases (OTN)

Working Session Ryan Logan

DATA PLAN: OTN QAQC processes, Using databases between researchers and NOAA create central repository, support from Axiom, creating data infrastructure

Acoustics

NANOOS | Northwest Association of Networked Ocean Observing Systems

Acoustic tags on NANOOS Glider

TECH: Acoustic tag receiver on WA Shelf Slocum glider only

DATA PLAN: Registered on N-PAcT system, integrate datastreams into N-PAcT database

DETAILS: Two self-contained coded acoustic tag receivers from VEMCO and attach them to the existing Slocum electric gliders used in the WA coast surveys. Detection data will be collected when the gliders are recovered and shared and posted as part of N-PAcT.

CENTRAL & NORTHERN CALIFORNIA OCEAN OBSERVING SYSTEM

Axiom Database Support

TECH: Support transition of data from N-PAcT to be consolidated at OTN

SOUTHERN CALIFORNIA COASTAL OCEAN OBSERVING SYSTEM

Great White Shark Detection

TECH: 5 ATN Buoys

Acoustics

AOOS
Alaska Ocean Observing System

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King Crab Pilot Project (Subaward)

TECH: Vemco V-FIN-Rx-Live acoustic signal receiver; Vemco V16 model high power acoustic signaling transmitters

DATA PLAN: Annual data / metadata will be submitted to AOOS via Research Workspace. Final data / metadata will be submitted to AOOS via Research Workspace.

Passive Acoustic Monitoring for Marine Mammal Detection

TECH: Underwater Glider (Seaglider SGX) for BGC and PAM sensors

WORKING SESSION

DATA PLAN: CARICOOS Data Management System (DMS) operates as the Caribbean Regional Data Assembly Center. Data is in standardized forms through CARICOOS THREDDS / OPeNDAP and ERDDAP servers

Acoustics

GCOOS GULF OF AMERICA COASTAL OCEAN OBSERVING SYSTEM 20 YEARS

Integrated Tracking of Aquatic Animals in the Gulf (iTAG)

DELIVERABLES: Gulf of Mexico regional OTN data node infrastructure, one dedicated telemetry data manager, and two stakeholder workshops in five years.

DATA PLAN: GCOOS will establish a node of the Animal Tracking Network (ATN) through Ocean Tracking Network (OTN). Data will be retained by GCOOS, but directly accessible by ATN and OTN.

SECOORA

SECOORA Estuarine Soundscape Observatory Network

TECH: Nine passive acoustic monitoring stations, fishery surveys, bottlenose dolphin surveys

DATA PLAN: soundscape analysis of a subset (39,420 wav files; 2 min every 2 hours; or 12 wav files/day) of these PAM data; Share passive acoustic monitoring (PAM) data from ESONS with Axiom for hosting on the SECOORA Soundscapes webpage and with NOAA NCEI for archive

Acoustics

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Ocean Sound Observing Network

TECH: Development of a passive acoustics visualizations product.

DATA PLAN: Data will be accessed from NCEI and processed in the Google cloud environment based on standardized metrics.

Acoustics

What are the data standards we need to be aware of for Acoustics information? PAM? Telemetry?

Audience Response: PAM

- See recommendations that NCEI has developed for this data type.
- Passive Packer - data packaging & metadata software for PAM data by NCEI
- Darwin Core to share occurrence data to OBIS

Audience Response: Telemetry

- Darwin Core to share occurrence data to OBIS → More information how to standardize this data type to Darwin Core here.
- OTN Acoustic Telemetry Workshop materials (analysis focused)

Acoustics

Where are people meeting / discussing Acoustics datastreams and their applications? PAM? Telemetry?

Audience Response - PAM

Audience Response - Telemetry

Acoustics

Who are the user groups interested in this information and its application? PAM? Telemetry? What relationships should we be focused on developing?

Audience Response - PAM

- Marine resource (e.g., sanctuaries, fisheries) managers, offshore energy planners, biodiversity researchers, possibly shipping industry.

Audience Response - Telemetry

Acoustics

What are some national products that would be interested in this information?

Audience Response: PAM

- Unsure if this effort is still active/funded/accepting new data, for NCEI's Passive Acoustic Data Viewer.
- Passive Acoustic Cetacean Map

Audience Response: Telemetry

-

What do I want you to walk away with?

1. Each project is one node in a larger web of effort to better understand our environment, support economic development, manage uncertainty, and provide information to decision-makers. Each involves many experts working together and is **COMPLEX**.

2. Across each theme, efforts are being tailored to regional needs, with an eye to support national efforts, products, and services.

3. Through EcoObs, we will meet and address many data challenges that will become more relevant into the future, including the development of new technology, and integrating unique or localized data streams into national and accessible databases.

Thank You!

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Ecosystem Change (EcoChg)

Overarching Goal: Expand the monitoring of factors such as water column structure, heatwaves, marine life, and biogeochemistry to support decisions that protect the economy, maritime safety, and coastal and Great Lakes community livelihoods

Goal 1.1: Understand and meet User Needs for Ecosystem Observations

Goal 1.2: Communities of Practice to Share and Evolve Technical Approaches

Goal 1.3: Common Data Management Practices / Standards

Ecosystem Change (EcoChg)

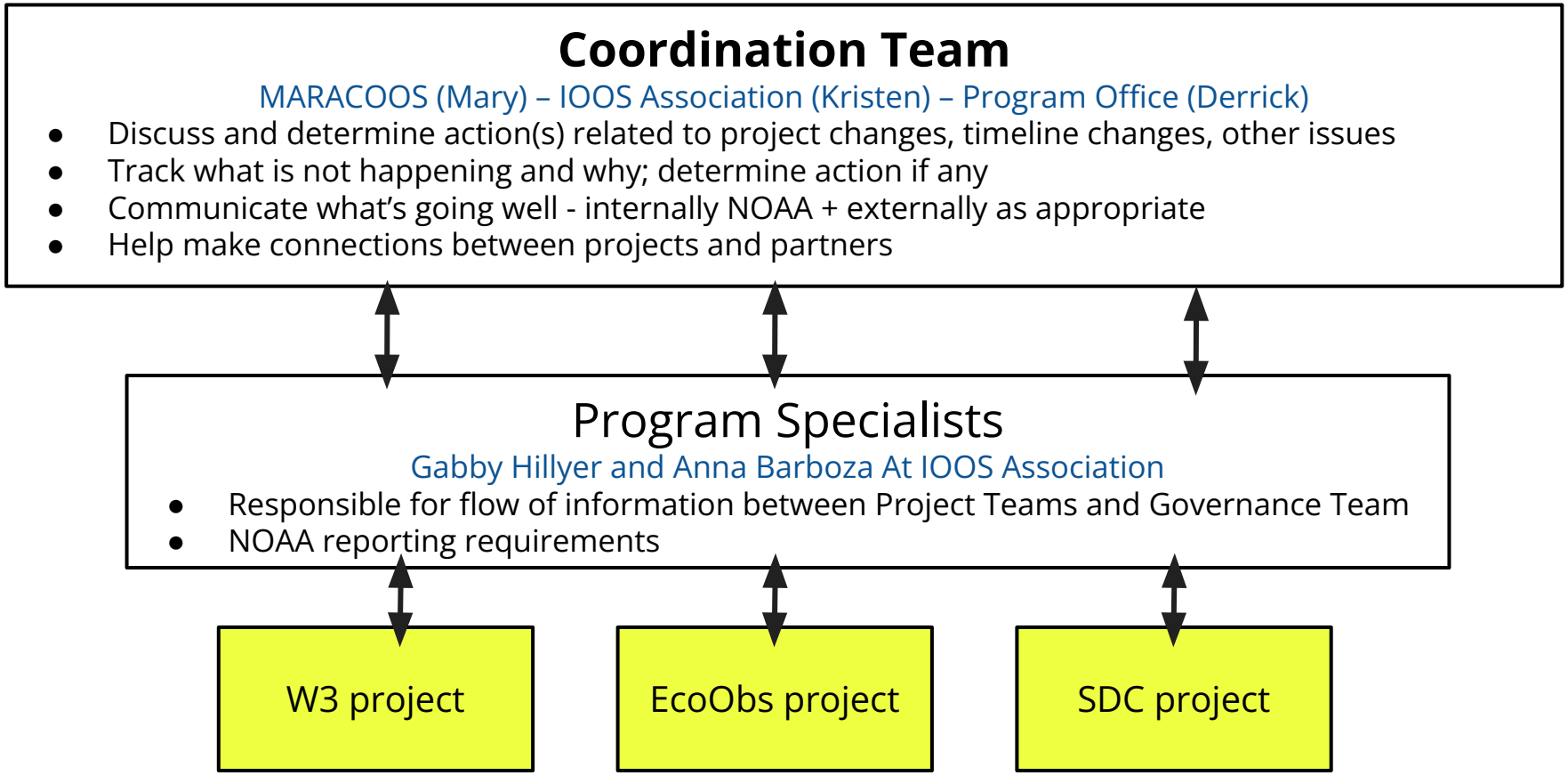
Water Level, Waves, and Webcams (W3)

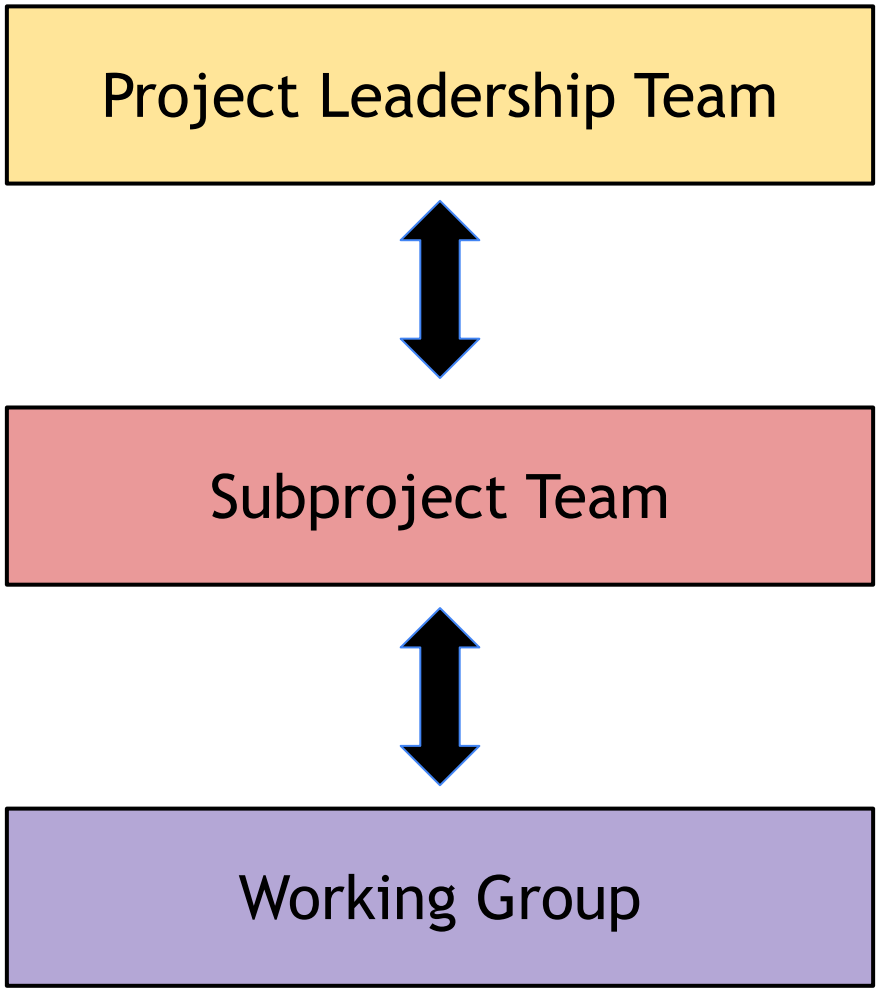
Goal 3: Cross-Initiative Approaches to Optimize Product Development and Delivery

Objective 3.1.1 Engage stakeholders in the product development process

Objective 3.1.2. Iterative engagement with stakeholders to ensure data products remain relevant

Reporting / Coordination




Project Leadership Team
Subproject Team
Working Group

Project Leadership Team

Meets as necessary (1-3 times / 6 month period) to discuss

- Overall progress on milestones across 3 subproject teams
- Make decisions about major presentations / events
- Space to develop ideas about workshops, communities of practice, etc.
- This would be staffed generally by RA leadership, others, that have high level view of overall project

For Example, this would be the EcoObs leadership team

Subproject Team

Subproject teams (meets monthly)

- Track milestones / activities
- Take notes that identify action items, progress, etc.
- Identify and tackle cross-RA challenges within each project
- Participate when necessary in coordination team
- This would include at least one participant from the Project Leadership team, and representatives from working groups or others

  For example, this would be a “eDNA” team, a “HABs” team, etc.

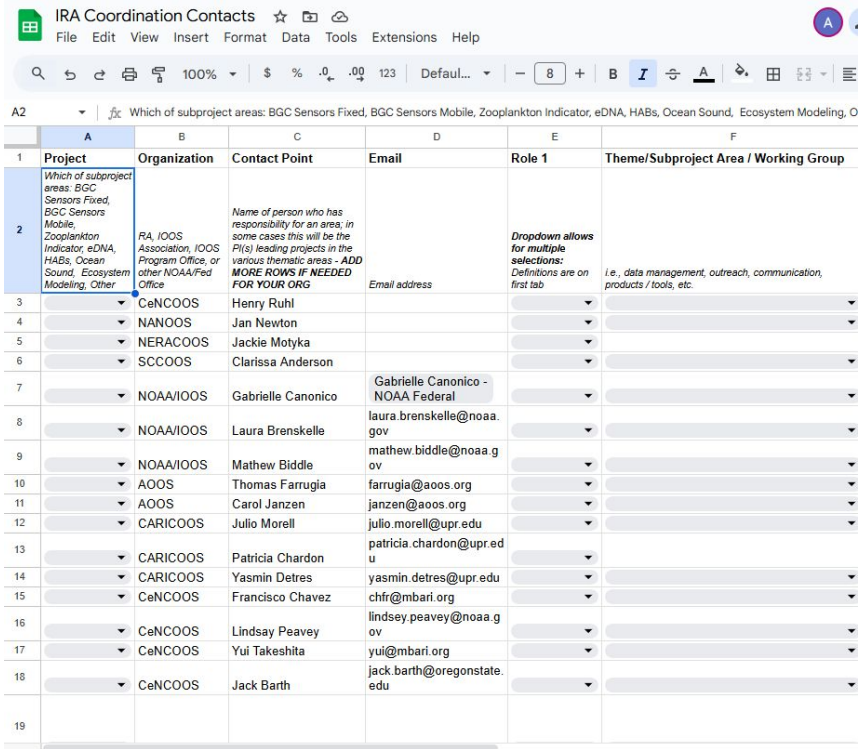
Working Group

Small teams of specialists, others that identify and tackle specific issues within a project (meet at their own pace)

- Could include groups dedicated to data management, deployment, trainings, etc.
- Can meet and stop meeting as relevant for project
- May participate in broader communities of practice or leadership team as relevant

This could be a group of specialists, implementers, others focused on one aspect of a project, so this could be a "PAM" Working Group, or a eDNA DMAC Group

How to folks get involved in the leadership, working group, or other meetings?



IRA Coordination Contacts

File Edit View Insert Format Data Tools Extensions Help

A2: Which of subproject areas: BGC Sensors Fixed, BGC Sensors Mobile, Zooplankton Indicator, eDNA, HABs, Ocean Sound, Ecosystem Modeling, O

	A	B	C	D	E	F
1	**Project**	**Organization**	**Contact Point**	**Email**	**Role 1**	**Theme/Subproject Area / Working Group**
2	*Which of subproject areas: BGC Sensors Fixed, BGC Sensors Mobile, Zooplankton Indicator, eDNA, HABs, Ocean Sound, Ecosystem Modeling, Other*	*RA, IOOS Association, IOOS Program Office, or other NOAA/Fed Office*	*Name of person who has responsibility for an area; in some cases this will be the PI(s) leading projects in the various thematic areas - **ADD MORE ROWS IF NEEDED FOR YOUR ORG***	*Email address*	***Dropdown allows for multiple selections:** Definitions are on first tab*	*i.e., data management, outreach, communication, products / tools, etc.*
3		CeNCOOS	Henry Ruhl			
4		NANOOS	Jan Newton			
5		NERACOOS	Jackie Motyka			
6		SCCOOS	Clarissa Anderson			
7		NOAA/IOOS	Gabrielle Canonico	Gabrielle Canonico - NOAA Federal		
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19						