



RESPONSIBLE OFFSHORE  
SCIENCE ALLIANCE

**ROSA Advisory Council Meeting**  
December 20, 2021

# Agenda



COOPERATION  
COLLABORATION  
SCIENCE BASED  
DATA DRIVEN

- 1:00 Welcome
- 1:05 Regional Science Updates
- 1:20 Data Sharing
- 2:25 BREAK
- 2:35 ROSA Outlook for 2022: Regional Framework
- 2:50 ROSA Outlook for 2022: Launching Initial ROSA Funded  
Research 2022
- 3:50 Summary of Meeting Outcomes and Next Steps
- 4:00 Adjourn



# Regional Science Updates



# Regional Science Updates



- NSF Convergence Accelerator Grant
- RODA Research Priorities 2022
- Other?

**NSF Convergence Accelerator:  
Regional climate change projections  
to enable equitable ocean planning  
for the blue economy**

**ROSA Advisory Council Meeting  
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## The Problem:

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Climate change, climate variability, and changing human communities mean the ocean is changing rapidly

Most decisions about the ocean are made using historical data

Climate projections exist, but they are often unusable by regulators, fisheries managers, wind energy developers, fishermen, etc.

## Our Solution:

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Online decision support tool -  
**FutureBlue** - co-designed with  
stakeholders and inclusive of  
socio-ecological contexts,

Integrating down-scaled **projections** of offshore ocean and  
atmospheric conditions, marine species distributions, and  
wind energy potential in the Northeast US



# NSF Convergence Accelerator

## Project Objectives:

- 1) Guide the development of **offshore blue economies** with usable **climate impact projections**
- 2) **Collaboratively design a decision support tool** to integrate climate information into place-based decision-making
- 3) Expand **socio-ecological literacy** by integrating diverse community interests into the data inventories and decision-making of the blue economy



# Our Team



SKYE MORÉT  
*designer // scientist // adventurer*



# Project Timeline

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October 1, 2021: Official start

October - April: Engage stakeholders in tool design

October - August: Make resource projections

October - April: Develop data representing community and cultural context

November - April: Engage locally dependent and marginalized communities

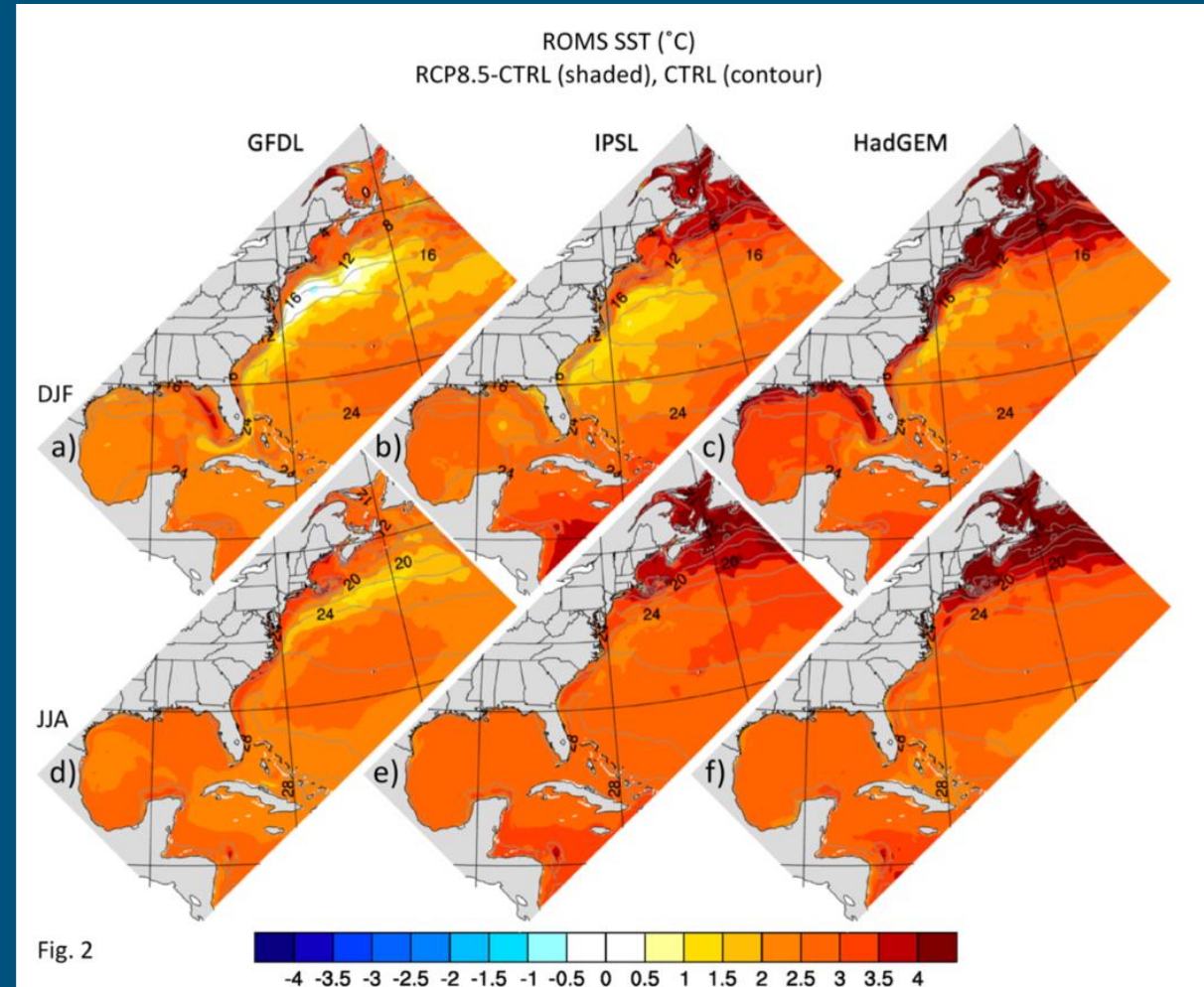
April: Prototype of decision support tool

May: Submit Phase II proposal to NSF

September 2022 - August 2024: Phase II to build and implement tool (if funded)

# Climate Projections – Approach

- Extend existing NWA ocean projections to be continuous in time from 1980 to 2070 following the time varying delta method under high emissions scenario from CMIP6
- Projected ocean conditions will include oxygen and ocean acidification variables
- Estimate the natural variability in the region for the NE US from the CESM decadal prediction large ensemble
- Estimate the *wind energy potential* in the area using historical and future winds at hub height from North American Coordinated Regional Downscaling Experiment (NA-CORDEX)

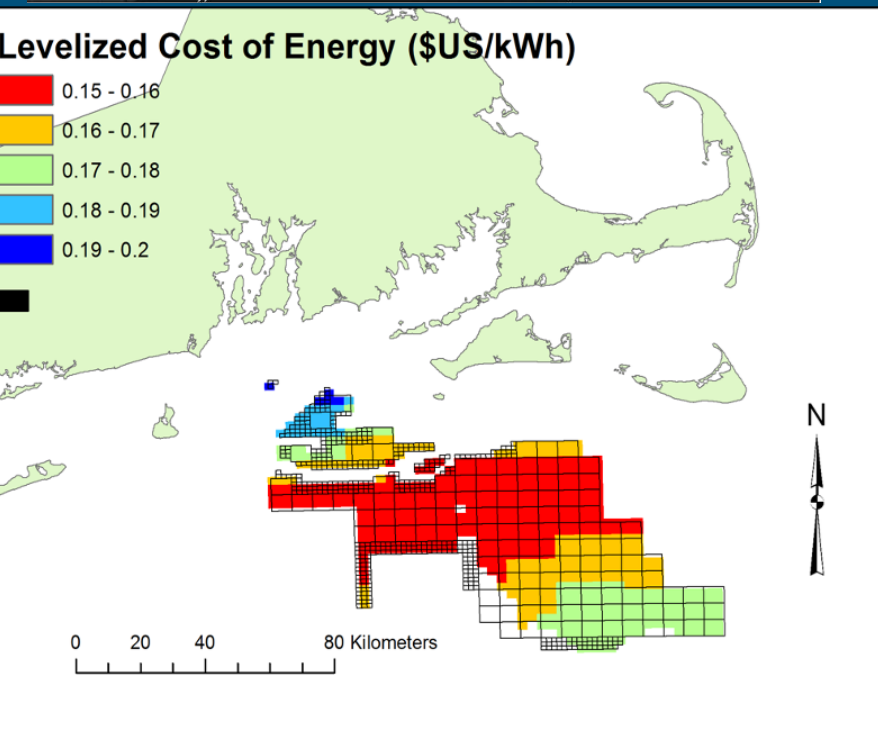
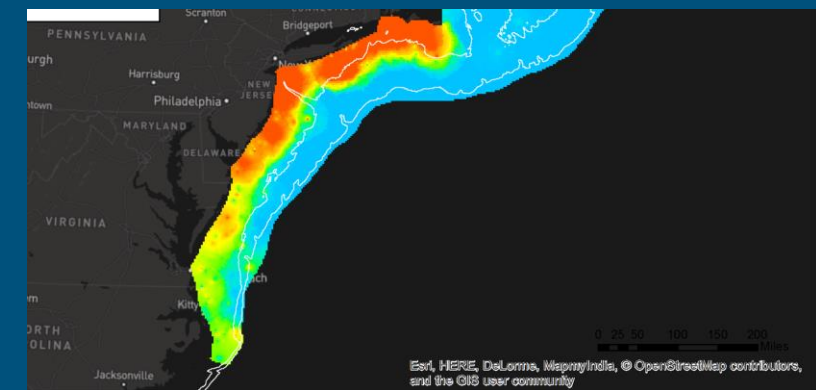


# Fisheries, conservation and wind

## 2030-2070

- Biomass distribution of managed fishery species
- Presence of conservation species (probability of occurrence)

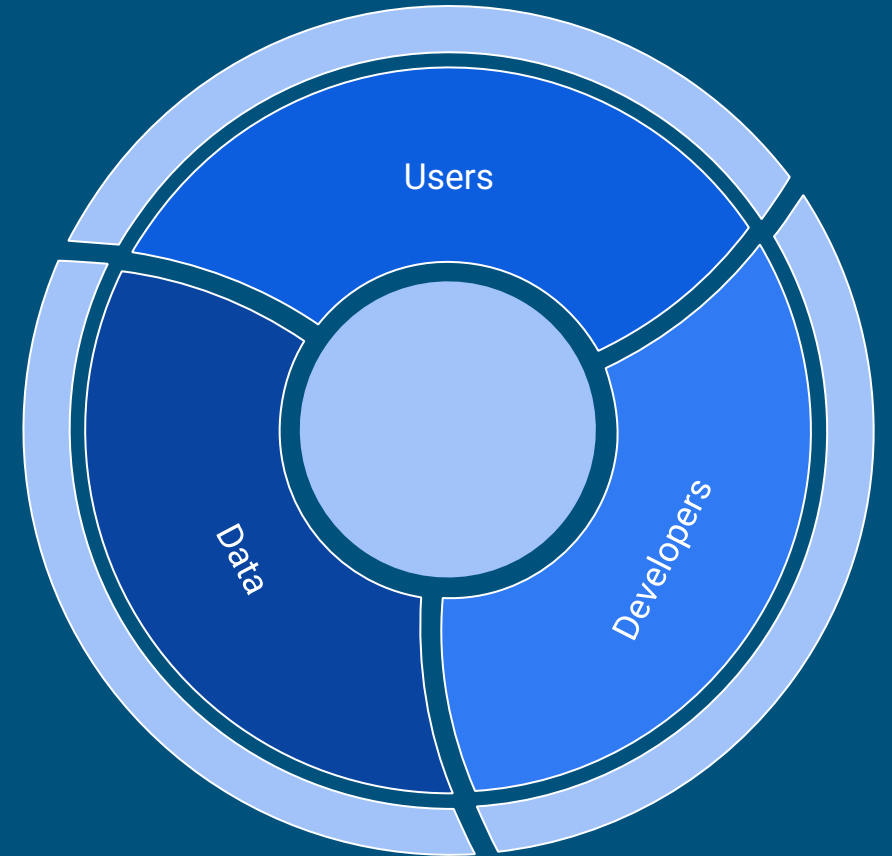
Wind energy modeling framework: using “InVEST”



# Collaborative Design

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- Engage intended users of tool in tool design
  - Increase the degree to which diverse publics and interests can be represented in the tool
  - Build buy-in and shared ownership
  - Allow users to develop a shared understanding of the tool



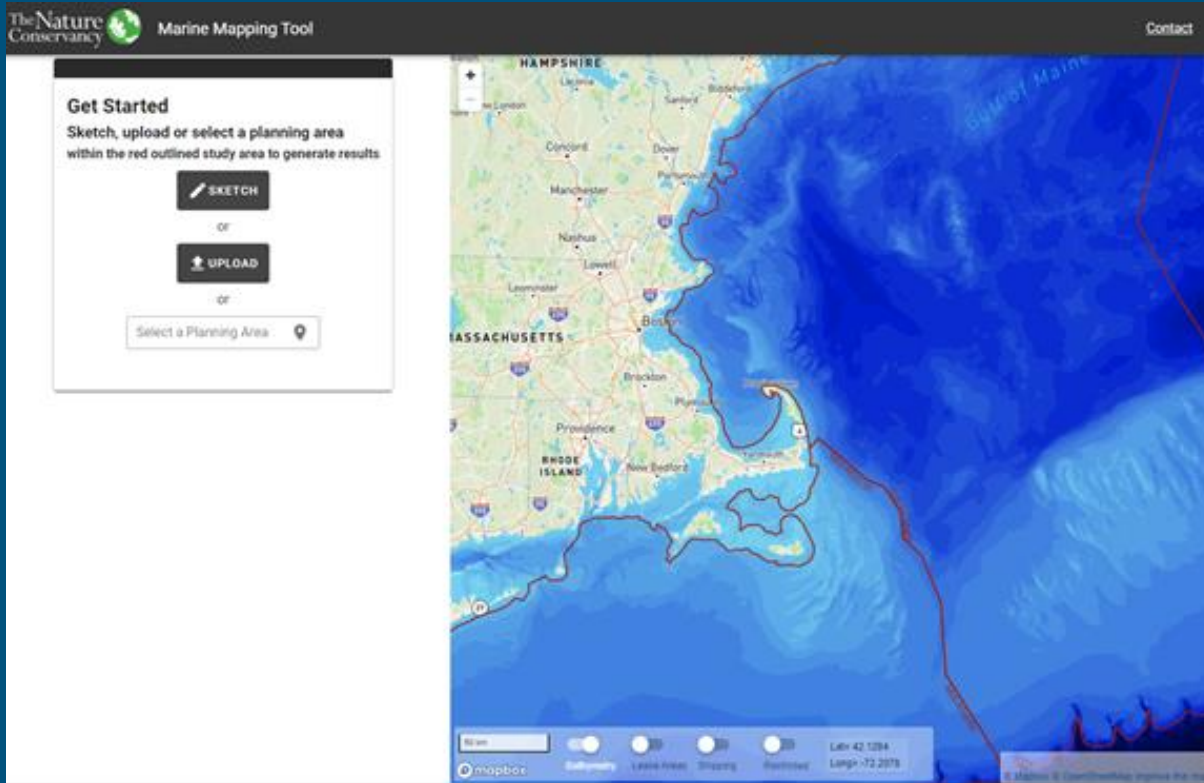
# Audience Questions

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In a couple of words, what aspect of climate change most affects the decisions you make in your current role?

In a couple of words, what climate information do you wish was more available?

# The Marine Mapping Tool



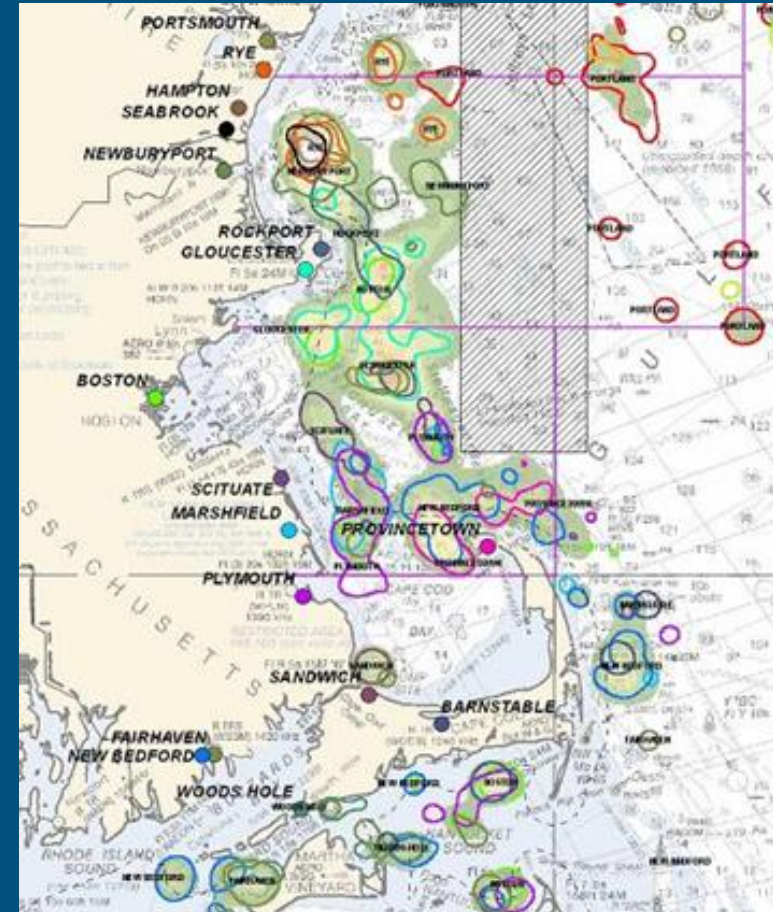
- ▶ Decision support tool that leverages marine-life and habitat data to provide guidance related to wind energy development
- ▶ Focuses on a “site” and describes both the species and habitat characteristics
- ▶ Provides quantitative way to compare different sites.

<https://maps.tnc.org/marinemap/>

# Engaging Locally Dependent and Marginalized Communities

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- Engage Stakeholders Traditionally Overlooked in Ocean Planning
  - Crew members, processing and other shore-side workers
- Adding Community and Cultural Data to the Decision Making Tool
  - Communities-at-Sea
  - Placenames Project
- Giving communities a voice in planning processes





# Phase II

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- September 2022 - 2024
- Publish accessible climate impact projections for 2030-2070
- Build and launch the FutureBlue tool
- Engage stakeholders to use FutureBlue in the Northeast US
- Expand FutureBlue to US west coast or elsewhere

# Audience Question

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How far into the future are climate projections likely to be useful to you in your current role?

- a) 1-5 years
- b) 6-10 years
- c) 11-20 years
- d) 21-30 years
- e) More than 30 years

# Questions and Follow up

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If you are interested in learning more and would like us to follow up with you, please share your name and email address in the chat.

# RODA Research Priorities

Fiona Hogan

ROSA Advisor Council Meeting

December 20, 2021

# Purpose

- Comprehensive list of research priorities – equally important
  - Goal is to develop cooperative research approaches
- Fishing industry driven
  - Surveyed fishing industry
  - Councils helped with circulation
- Available on RODA's website
  - [https://rodafisheries.org/wp-content/uploads/2021/12/RODA-Research-Priorities\\_vDec1-1.pdf](https://rodafisheries.org/wp-content/uploads/2021/12/RODA-Research-Priorities_vDec1-1.pdf)
- Included in ROSA's "list of lists"
- Developing rollout plan

# Main topics

- Business, Communities & Socioeconomics
- Environmental Impacts
- Fishing Regulations and Management Impacts
- Monitoring and Review Recommendations
- Safety
- Supply Chain
- Transmission

# Questions?

- [https://rodafisheries.org/wp-content/uploads/2021/12/RODA-Research-Priorities\\_vDec1-1.pdf](https://rodafisheries.org/wp-content/uploads/2021/12/RODA-Research-Priorities_vDec1-1.pdf)

# Data Sharing and Accessibility





# Data Sharing and Accessibility

- *Overview:* Regional data management, storage, and access identified as a priority focus area by the ROSA Advisory Council in at the Nov. 2020 Advisory Council meeting and in the March 2021 survey
- *Progress to date:*
  - March 2021- sought volunteers at AC meeting for data management subcommittee; held follow up meeting in March 2021 to scope data management RFP; members provided verbal and written feedback on RFP before release
  - RFP released April 2021
  - RPS began project in late summer 2021
    - Draft report to ROSA October 2021
    - Revised draft sent to subcommittee for review December 2021
  - Presentation to ROSA Advisory Council TODAY

## Subcommittee Volunteers & Invitees:

- Bonnie Brady
- Doug Christel
- Tom Dameron
- Greg DeCelles
- Willy Goldsmith
- Pat Halpin
- Annie Hawkins
- Fiona Hogan
- Josh Kohut
- Andy Lipsky
- Julia Livermore
- Ruth Perry
- Kathleen Reardon
- Dave Rudders
- David Stormer
- Kevin Wark
- Carl Wilson



# FISHERIES RESOURCE DATA COLLECTION, STORAGE, AND ACCESSIBILITY

Prepared by: Gabriella DiPreta, Alicia Morandi, and Joseph Zottoli  
December 20, 2021

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# Outline

- Introduction and Scope
- Methods
- BOEM Data Guidelines for OWE Development
- Fisheries Data Management: Studies and Practices
- Fisheries Data Types
- Existing Databases and Standards
- Summary and Recommendations
- Questions

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# Introduction and Scope

- RPS was contracted by the Responsible Offshore Science Alliance (ROSA) to:
  - create a general typology of the types of fisheries resource data collected in the Northeast and Mid-Atlantic United States,
  - identify the range of sampling gear and monitoring methods in use,
  - identify current data management and reporting expectations required by regulatory agencies, and
  - review existing standards and databases to summarize their metadata and provide insight into data sharing requirements and gaps to improve accessibility and interoperability of fisheries-related data and its application to offshore wind energy (OWE) permitting, monitoring, and impact assessment.

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# FAIR Standards: Best Practice for Data Management

ICES (2019)

Successfully managed data should follow the FAIR principles:

- Findable – through documentation and metadata;
- Accessible – through licensing, formats, and data policies;
- Interoperable – through use of shared reference systems and services; and
- Reusable – by having known data quality and good documentation of any errors.

Data quality can be expressed through timeliness, completeness, consistency, accuracy, and traceability.

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# Methods

- Reviewed 6 current studies pertaining to fisheries data management and references therein
- Presented at the September 24 advisory council meeting
- Incorporated feedback from and followed up with NOAA, NMFS, RODA, and Ørsted representatives for documents or background info
- Reviewed 18 relevant databases and portals
- Compiled metadata for 111 fisheries-related surveys in an Excel file
- Reported summary of findings

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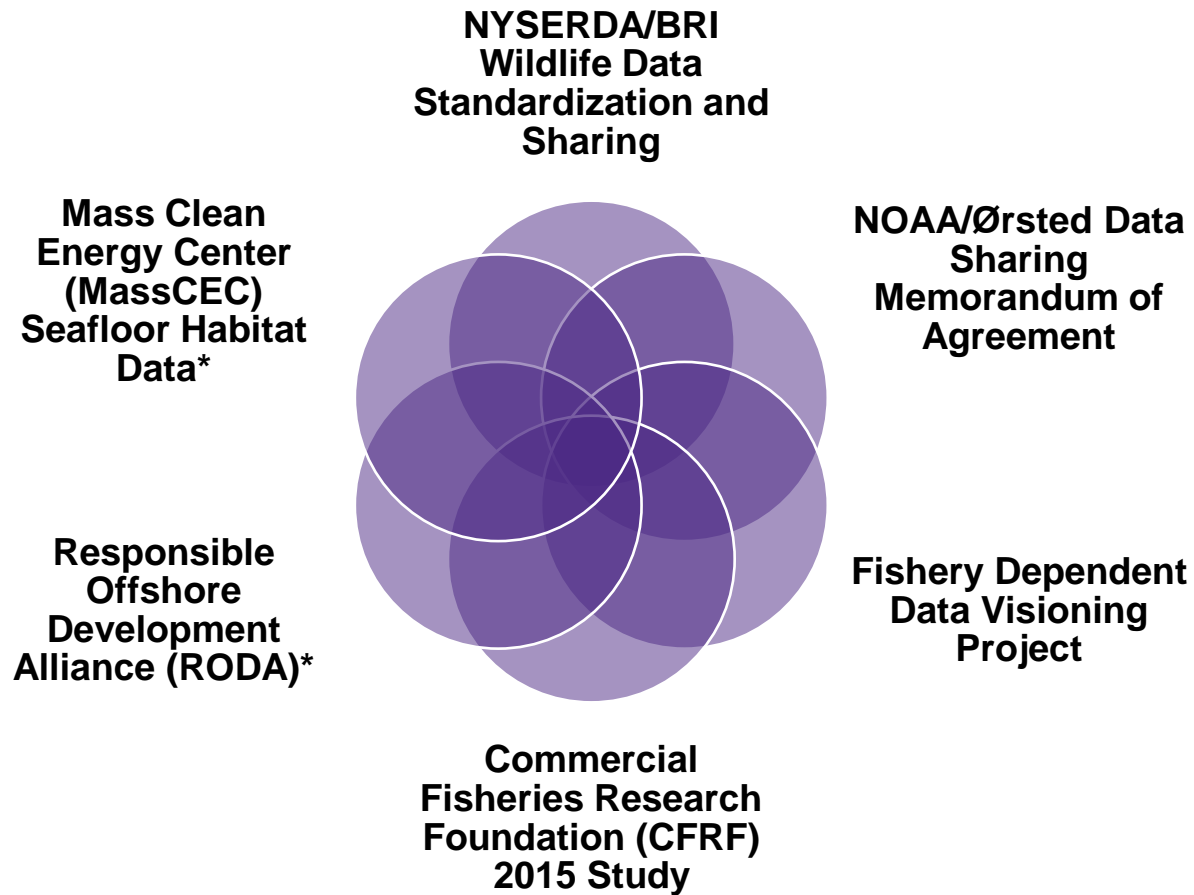
# BOEM Data Guidelines for OWE Development

1. Information Guidelines for a Renewable Energy COP (BOEM 2020a)
  - Lessees should conduct pre-siting surveys to identify important habitats.
2. Guidelines for Providing Information on Fisheries Social and Economic Conditions for Renewable Energy Development on the Atlantic OCS Pursuant to 30 CFR Part 585 (BOEM 2020b)
  - Lessees should write a Fisheries Communication and Outreach Plan.
3. Guidelines for Providing Information on Fisheries for Renewable Energy Developments on the Atlantic OCS Pursuant to 30 CFR Part 585 (BOEM 2019)
  - Relies on McCann 2012 which focuses on protocols and approaches for data analysis.
4. Guidelines for Submission of Spatial Data for Atlantic Offshore Renewable Energy Development Site Characterization Surveys (BOEM 2013)
  - Sets a framework and standards for submitting spatial data to BOEM from site characterization surveys.

**TAKEAWAY: No requirements for how or where data is to be stored, shared, or provided.**

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# Fisheries Data Management: Studies and Practices



\*Documentation not accessible for review



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# Fisheries Data Management: Studies and Practices

## NYSERDA/BRI Wildlife Data Standardization and Sharing

- Concluded that benthos, zooplankton, fish, and PSO data are poorly served by extant databases (either because relevant databases do not exist, they do not accept private data, or do not permit public access to those data)
- Six databases relevant to fisheries met NYSERDA/BRI study criteria but focused on PAM, tracking, or habitat data
- None of the recommended databases house raw trawl, dredge, or pot surveys, which are involved in most of the baseline fisheries resource programs and monitoring data collected for OWE

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# Fisheries Data Management: Studies and Practices

## NOAA/Ørsted Data Sharing Memorandum of Agreement

- Described methods for providing data access including data access services, file transfer services, or direct hand-off of a hard copy of the data (least secure option)
- Stated best practices for metadata and documentation
- Recommended the Environmental Research Division's Data Access Program (ERDDAP) to be used for *in-situ* observations and biological datasets in tabular form
- Stated the Thematic Realtime Environmental Distributed Data Services (THREDDS) server can be used to access model output data in grids / rasters stored in NetCDF files

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# Fisheries Data Management: Studies and Practices

## Fishery Dependent Data Visioning Project

- Implements a modernized data collection system and infrastructure specifically for fishery dependent data
- Combines observer data, biological sampling, marine mammal takes, vessel monitoring data, permits, dealer and logbook accounts from different regions, and data managed by different entities into one warehouse with vessel landings tracked by unique trip identifier
- Involves collaboration between NMFS staff, state partners, fishery management councils and commissions, non-governmental organizations, fishing harvesters, dealers, and representatives, and the Atlantic Coastal Cooperative Statistics Program (ACCSP)

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# Fisheries Data Management: Studies and Practices

## Commercial Fisheries Research Foundation (CFRF) 2015 Study

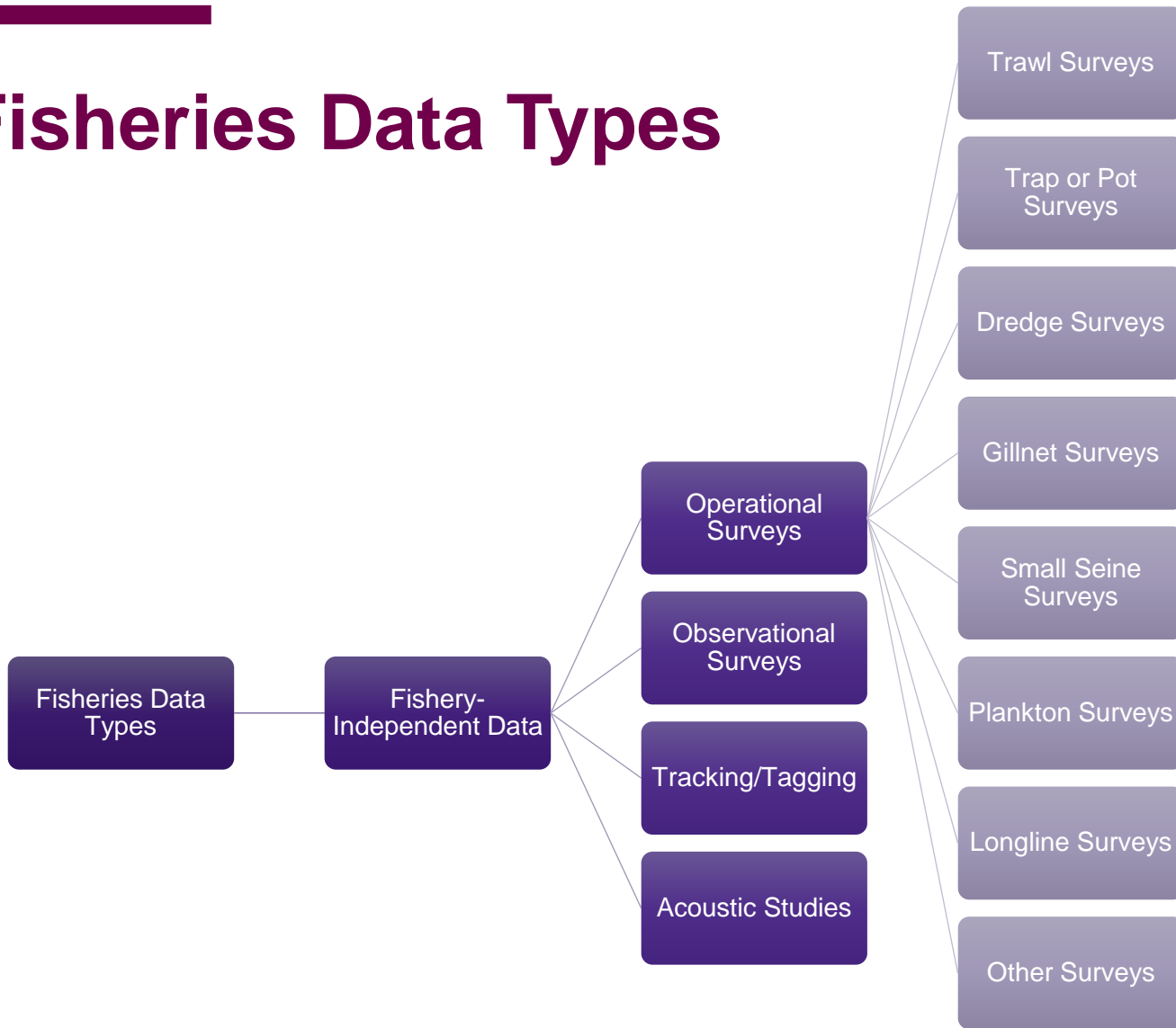
- BOEM-funded study for assessing impact of OWE on fisheries resources in RI/MA and NY WEAs
- Recommended leveraging existing sampling programs like the NMFS NEFSC bottom trawl, scallop survey, and NEAMAP surveys to detect regional-scale changes
- Highlighted that spatial scales and sampling designs of existing programs are not sufficient for assessing individual OWE development impacts on fisheries resources
- Stated that data management protocols were needed to ensure that all resultant data is publicly accessible for outside analysis but did not describe protocols

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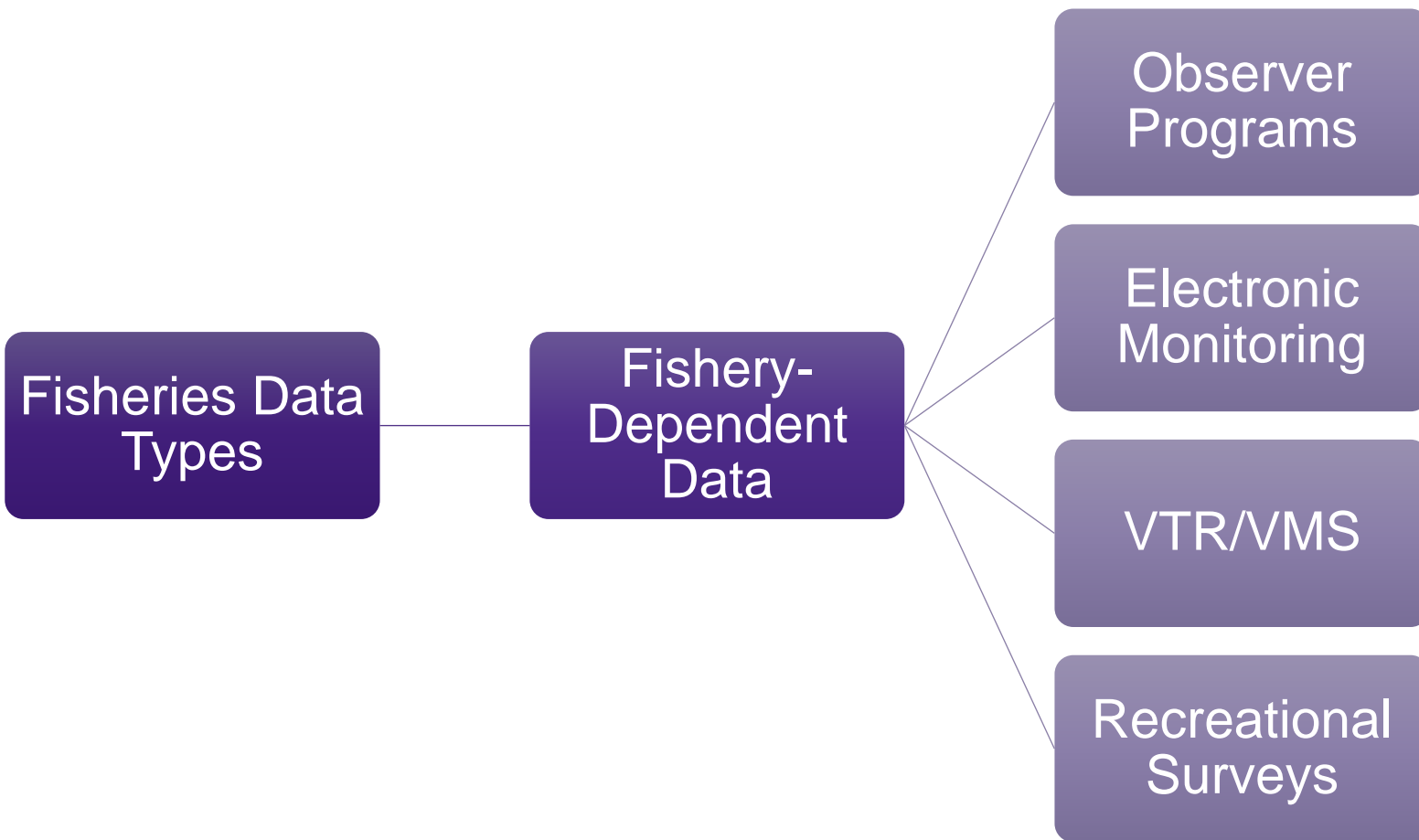
# Fisheries Data Types

- An accompanying Excel file was created to provide more comprehensive information about surveys where possible (n=111)
- Observations:
  - Survey and data QAQC methods were not easily apparent
  - Monitoring programs mainly store data in private or government-only databases
  - Collaborative surveys involving multiple stakeholders or organizations tend to provide frameworks that work better for OWE due to prior standardization protocols

# Fisheries Data Types



# Fisheries Data Types



Survey Type	Gear Type	Quantity	Fishing Time	Number of Sets	Mesh Size	Dimensions	Mensuration Equipment	Bait	Accessories	Sampling Time
Operational	Otter Trawl	# of nets towed	Total tow time and speed	# of tows	codend, main mesh	net type, shape, measurements, material, door shape and type, bridle and headrope lengths, line length and scope ratios	net mensuration equipment (shape), position loggers		cookies, ground wire, chains, temp loggers, etc.	day/night/both
Operational	Beam trawl	# of nets towed	Total tow time and speed	# of tows	codend, main mesh	net type, shape, measurements, material, bridle and headrope lengths, line length and scope ratios	net mensuration equipment (shape), position loggers		temp loggers	day/night/both
Operational	Traps and Pots	# of traps and pots pulled	Total soak time for each pot or trap	# of strings hauled	trap mesh	trap type, shape, measurements, string (trawl) configuration, net material	tilt meter (orientation)	type, amount container	turtle excluders, temp loggers, cameras, etc.	day/night/both
Operational	Dredges	# dredges pulled	Total tow time and speed	# of tows	Bar/liner/bag spacing	dredge type, shape, measurements, line length and scope ratios	tilt, hydraulic pressure sensors		temp loggers, cameras	day/night/both
Operational	Ichthyoplankton (net)	# nets used	Total tow time and depths	# of sets	codend, main mesh	net opening, length, shape, material	flowmeter			day/night/both
Operational	Hand Seine	# of nets pulled	Total tow lengths and times	# of pulls	main mesh	net measurements, net material				day/night/both
Operational	Gillnets	Float line length for string	Total soak time	# of strings/hauls	main mesh	net measurements, net material			temp loggers	day/night/both
Operational	Longlines	# of gangions / hooks	Total soak time	# of hauls or # of strings hauled		mainline length, gangion length		type, amount	temp loggers	day/night/both
Operational	Hook and Line (Angling)	# of lines (# of hooks is secondary)	Total soak time					type, amount		
Operational	eDNA/Molecular	volume filtered								day/night/both
Tagging / Tracking	Acoustic Tag	# of tags	tag lifetime	# of receivers		tag size and type, receiver size and type, tag location on organism				
Tagging / Tracking	Conventional Marking Tags (eg., floy tag)	# of tags				tag size and location			incentives	
Visual	Airplane	# of transects	transect duration and speed	# of sampling flights		transect length, width			magnification aids/power	day/night/both
Visual	Drone	# of transects	transect duration and speed	# of sampling flights		transect length			magnification aids/power	day/night/both
Visual	Video	# of transects/quadrats	transect/quadrat duration and speed	# of sampling flights		transect/quadrat length	scaling		magnification aids	day/night/both
Acoustic	Acoustic (Active)	# of transects	transect duration and speed	# of sampling trips		transect length			sonar information	day/night/both
Acoustic	Acoustic (Passive)			# of receivers		receiver size and type				
Interactive	Telephone /Trip report/ In-Person Interview	il responses		# requests for response						



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# Existing Databases and Standards

## Raw Data

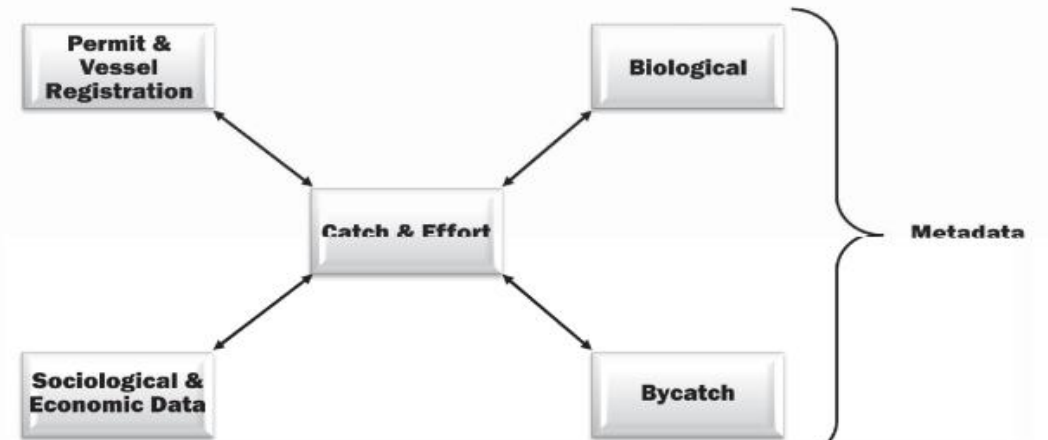
- Atlantic Coastal Cooperative Statistics Program (ACCSP)\*
- Fisheries Information Network (FIN)\*
- Northeast Area Monitoring and Assessment Program (NEAMAP)
- Southeast Area Monitoring and Assessment Program (SEAMAP)
- Ocean Biogeographic Information System-Spatial Ecological Analysis of Megavertebrate Populations (OBIS-SEAMAP)\*
- American Lobster Settlement Index Web Portal (ALSI)
- National Centers for Environmental Information (NCEI) Passive Acoustic Monitoring Archive
- Ocean Tracking Network (OTN) and US Regional Nodes\*
- Animal Telemetry Network Data Assembly Center (ATN DAC)\*
- Marine Resources Monitoring, Assessment, and Prediction (MARMAP)\*

# Existing Databases and Standards

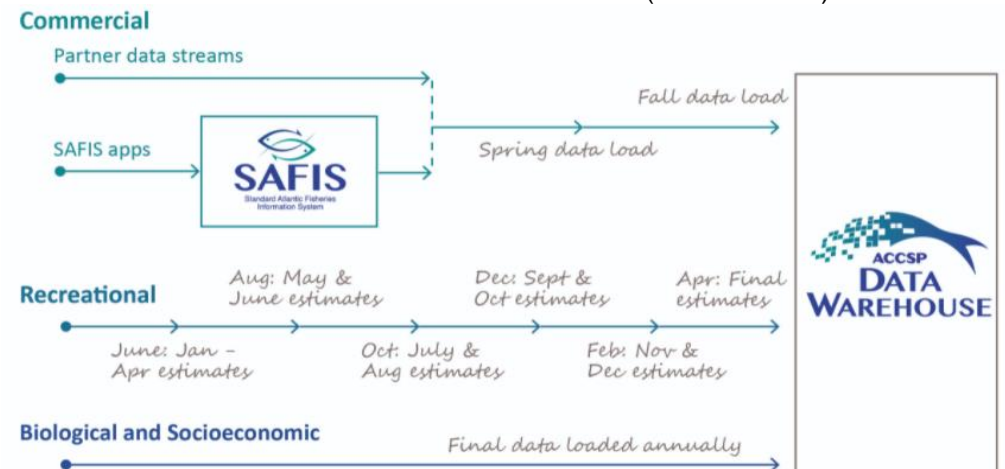
## Raw Data: ACCSP

- Clearly defined policies, data collection, and data management standards
- Standards designed as a modular system
- Data are uploaded into the Data Warehouse according to the appropriate data module standards and harmonized

Components of the ACCSP Data Collection Process (ACCSP Standards 2021)



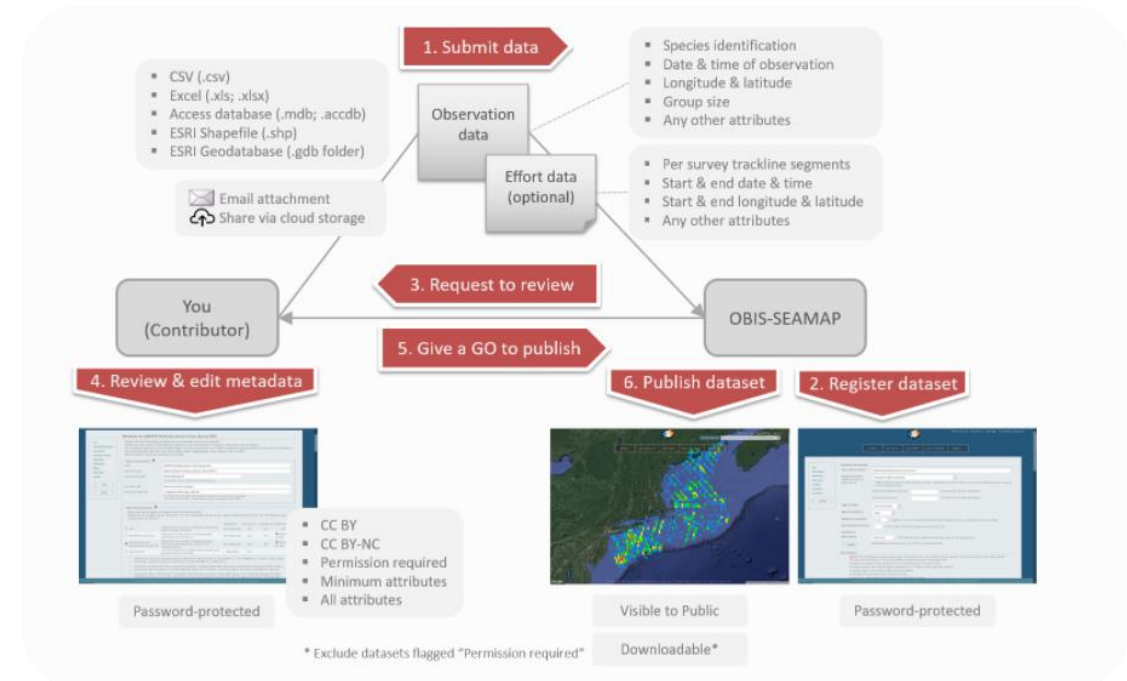
ACCSP Data Load Process (ACCSP 2021)



# Existing Database and Standards

## Raw Data: OBIS-SEAMAP

- Observational survey data for bony fishes
- Publicly accessible interface
- Accepts whole datasets and additional attributes of *in-situ* data
- Quality checks performed on data
- Data provider retains ownership
- Data uploaded to Ocean Biogeographic Information System (OBIS) and Global Biodiversity Information Facility (GBIF) unless opted out

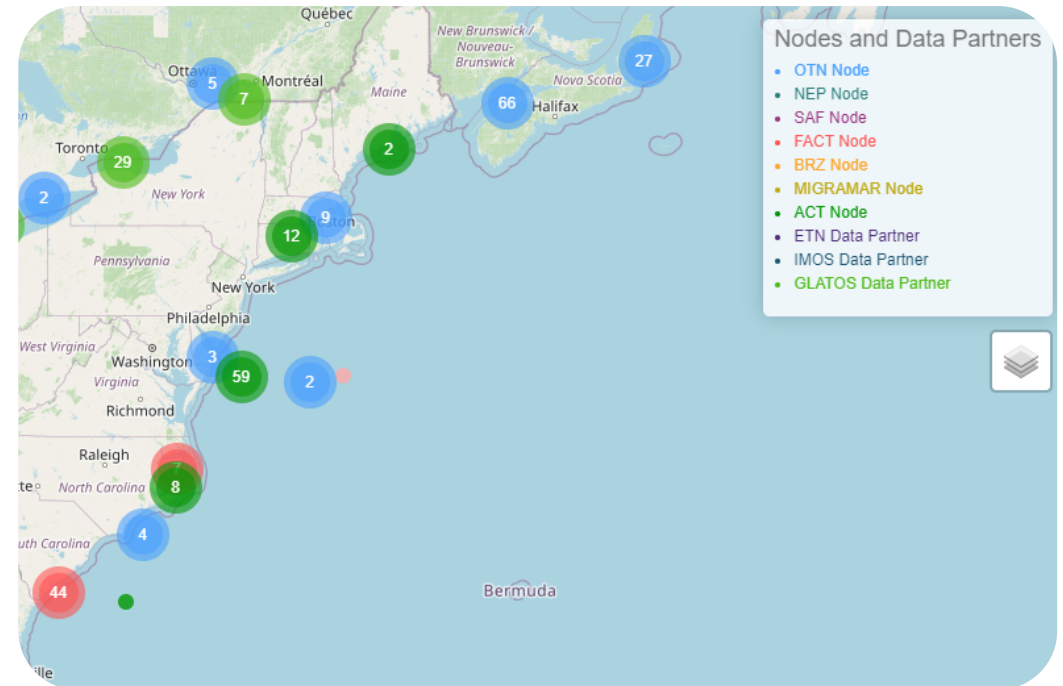


OBIS-SEAMAP data flow (OBIS-SEAMAP 2021)

# Existing Databases and Standards

## Raw Data: OTN and US Regional Nodes

- Repository for public and private acoustic telemetry data
- Affiliated nodes operate arrays worldwide, also feeds animal tracking data into OBIS
- ACT\_MATOS website hosts fish-focused acoustic telemetry data from the Mid-Atlantic and Northeast, data can be shared publicly or remain private under password-protection
- Florida Atlantic Coast Telemetry Network (FACT) hosts data for the Southeast

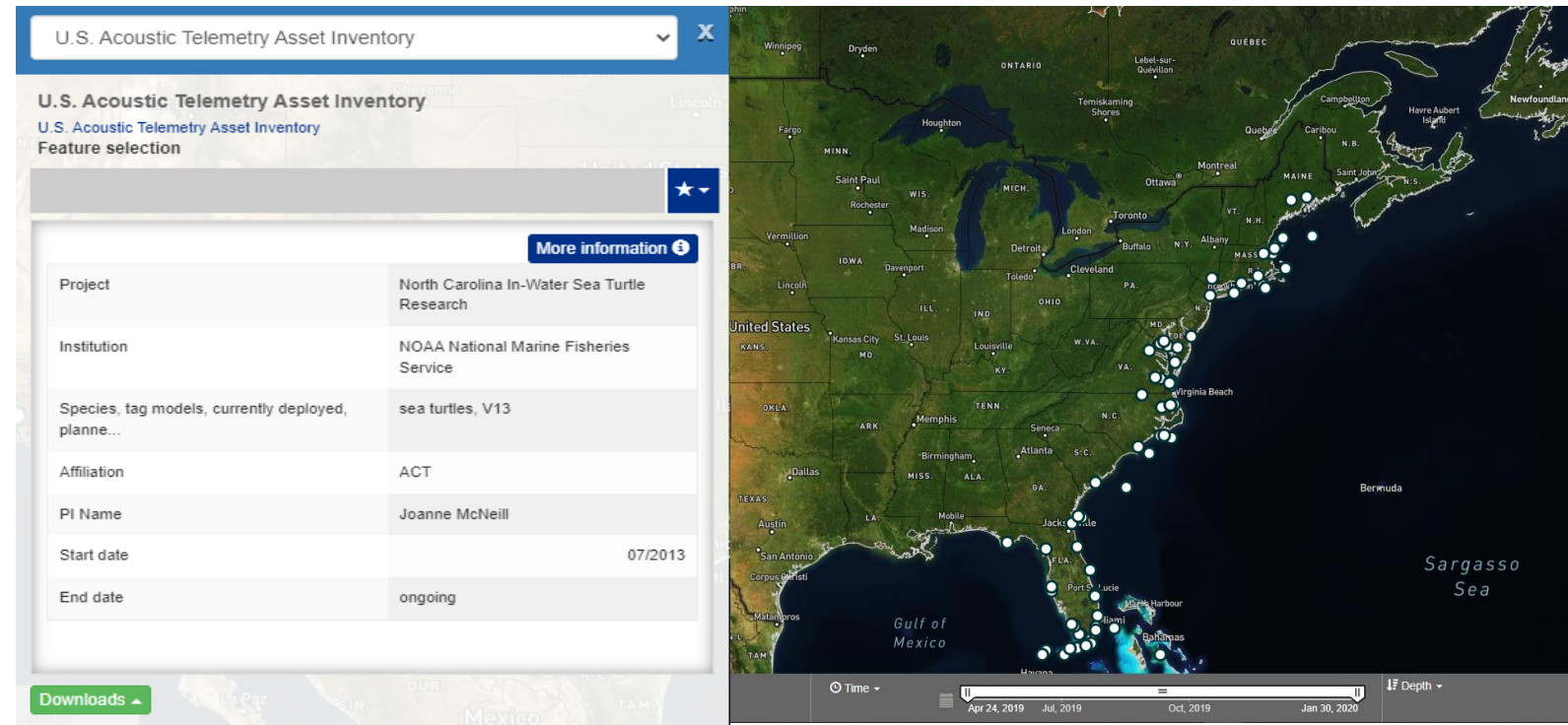


OTN Nodes and Data Partners (OTN 2021)

# Existing Databases and Standards

## Raw Data: ATN DAC

- Repository of real-time and historic satellite and GPS/GSM telemetry data, and associated oceanographic datasets
- ATN Data Portal is publicly accessible
- ATN operates the Data Assembly Center (DAC)
- No quality control procedures



U.S Acoustic Telemetry Asset Inventory (ATN DAC 2021)

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# Existing Databases and Standards

## Metadatabases

- InPort
  - Holds metadata for all NMFS Organizations
- Tethys Knowledgebase and OES-Environmental\*
  - Holds metadata for research studies and site-specific projects investigating potential environmental impacts of marine renewable energy devices

Name

Tom Clements

Date submitted

October 2, 2014

*Title of Research:* Hebridean Marine Energy Futures (HMEF)

*Researchers:* David Christie, Arne Vögler James Morrison, Charles Greenwood, Vengatesan Venugopal, Mathew Topper, Kirsty Lees, Elizabeth Masden, Angus Jackson, James Grecian, Angus Jackson.

Principle Investigator Contact Information

*Name:* Arne Vogler

*Address:*

*Phone:*

*Email:* [arne.vogler@lews.uhi.ac.uk](mailto:arne.vogler@lews.uhi.ac.uk)

Technology Types

- Wave
- Tidal
- Ocean Current
- Technology Neutral

Stressors

- Chemical Leaching
- EMF
- Energy Removal
- Noise
- Physical Presence of device (static)
- Physical Presence of device (dynamic)
- Other (please describe):

Receptors

- Bats
- Birds
- Invertebrates
- Fish
- Marine Mammals
- Sea Turtles
- Farfield Environment
- Nearfield Habitat
- Socio-economics
- Other (please describe):

*Project Website:* <http://www.hebmarine.com/web/Home.html>

*Funding Source:* Scottish Funding Council, Aquamarine Power, Pelamis Wave Power, Voith Hydro Wavegen, Heriot Watt University, ScottishPower Renewables, E-ON, Highlands and Islands Enterprise and Comhairle nan Eilean Siar

*Funding Contact:*

*Institutions Involved:* The University of the Highlands and Islands, The University of Edinburgh, and The University of Strathclyde.

*Location of Research:* Scotland.

*Start Date:* March 2011

*End Date:* March 2014

*Project Aims:*

1. To create a wave energy resource model for the Outer Hebrides;
2. To carry out investigations of wave resource, topography and ecological sensitivities at 3 selected sites;
3. To explore power quality and grid capacity to establish the impact of marine energy on the existing grid and how much wave generation can be accommodated;
4. To monitor interactions between wave energy converters and the environment, focussing on two Pelamis P2 devices, to generate environmental data for strategy development; and
5. To coordinate knowledge and research exchange that will assist in the development of large scale wave energy farms in the Hebridean Marine Area.

The full details of each of the above goals can be found at:

<http://www.hebmarine.com/files/Deliverables.pdf>

*Project Progress:*

Project complete and awaiting publication.

*Key Findings:*

**WP1:** The produced model yields area maps of wave parameters, including significant wave height, directional peaks, means and spreads, mean wave period, and power flux. Time varying directional spectra were also generated for all the sensor locations.

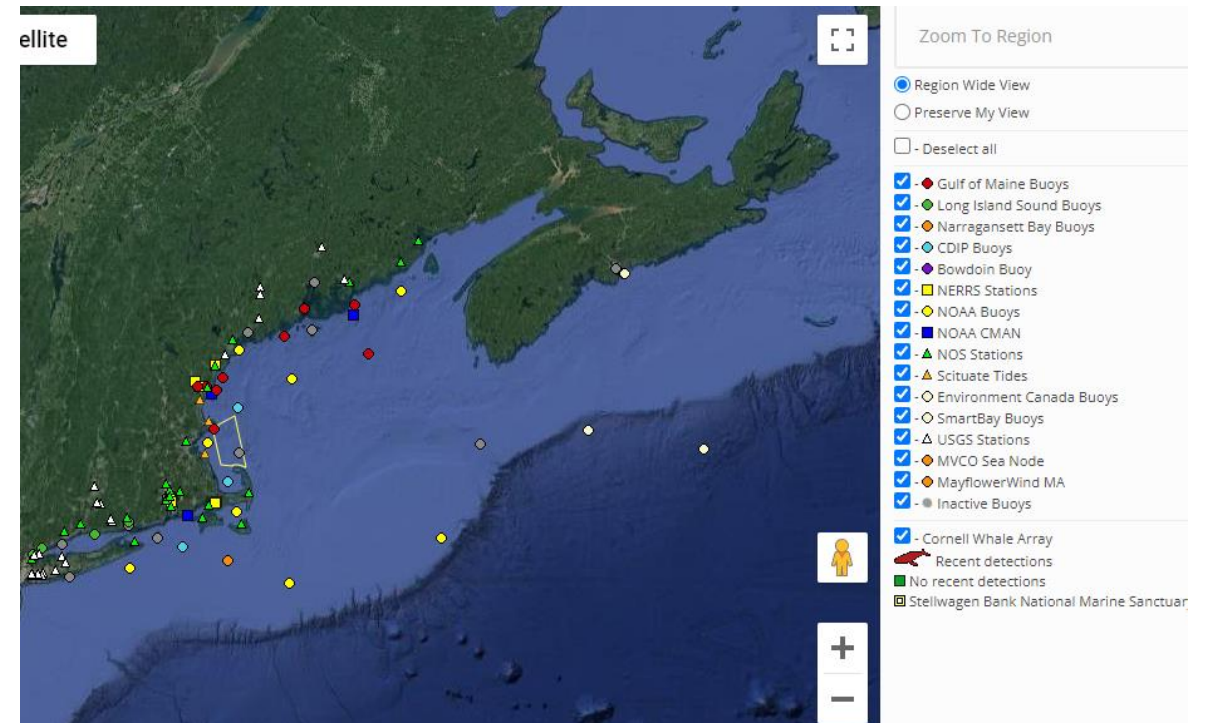
# Existing Databases and Standards

## Oceanographic and Biodiversity Data

- Northeastern Regional Association of Coastal and Ocean Observing (NERACOOS)\*
- Mid-Atlantic Regional Association of Coastal and Ocean Observing (MARACOOS)\*
- Southeastern Coastal Ocean Observing Regional Association (SECOORA)
- Integrated Sentinel Monitoring Network (ISMN) and Marine Biodiversity Observation Network (MBON)



Mayflower Wind Hourly Buoy Data (Mayflower Wind 2021)



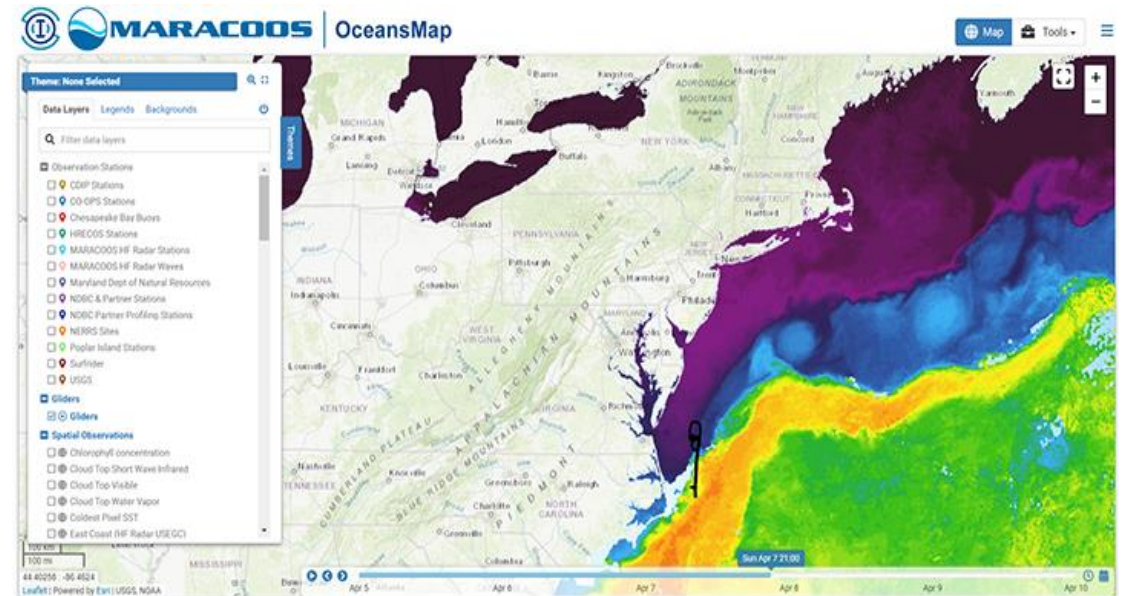
NERACOOS Mariner's Dashboard (NERACOOS 2021)



# Existing Databases and Standards

## Oceanographic Data: MARACOOS OceansMap

- Collects ocean and coastal data to create informative products to support the environment, economy, and safety for the Mid-Atlantic region
- Dynamic data visualization tool integrating near real-time observational assets and model forecasts that contribute to ocean monitoring in the Mid-Atlantic region



MARACOOS OceansMap (MARACOOS 2021)

# Existing Databases and Standards

## Derived Data Products

- Marine Cadastre
  - Hosts federally sourced spatial data
- The Nature Conservancy Marine Mapping Tool
  - Aggregates ecological data from Maine to North Carolina
- Mid-Atlantic Ocean Data Portal and Northeastern Ocean Data Portal\*
  - Publicly accessible commercial fisheries and resource data products
  - OWE themed data maps

The screenshot displays the 'NORTHEAST OCEAN DATA' website. The header includes the logo and the tagline 'Maps and Data for Ocean Planning in the Northeastern United States', along with navigation links for HOME, ABOUT, CASE STUDIES, THEME MAPS, DATA EXPLORER, and RESOURCES. The main content area is divided into several sections: 'DATA EXPLORER' with a map and a 'LAUNCH DATA EXPLORER' button; 'THEME MAPS' featuring a grid of icons for various topics like Marine Life & Habitat, Commercial Fishing, and Energy & Infrastructure; 'VIDEO TOUR' with a thumbnail for 'Introduction to the Northeast Ocean Data Portal'; and 'FEATURED MAP' with a thumbnail for 'TNC Marine Mapping Tool (TNC 2021)'. The 'THEME MAPS' section lists 12 categories: Marine Life & Habitat (Mammals & Turtles, Fish, Birds, Habitat), Commercial Fishing, Marine Transportation, Energy & Infrastructure, Aquaculture, Recreation, Restoration, Cultural Resources, National Security, and Water Quality.

Data Type	Recommended Databases or Protocols	Gaps or Expansion Opportunities
<b>Operational</b>	NEAMAP trawl survey protocols SEAMAP trawl survey protocols Lobster ventless trap survey protocols MARMAP (plankton database)	No public warehouse for juvenile or adult fish data.
<b>Observational</b>	OBIS-SEAMAP	OBIS-SEAMAP applicable primarily to photo ID data of large fishes.  No widespread, standardized protocols or warehouses identified for underwater video data.
<b>Tagging and Acoustic</b>	OTN (acoustic telemetry) ACT_MATOS (acoustic telemetry) FACT (acoustic telemetry) OBIS-SEAMAP (satellite telemetry)	No public warehouse for PAM data, but ATN DAC may be a possibility in future. NCEI does not accept private data but is open to conversations with developers.
<b>Fisheries Dependent</b>	ACCSP Data Warehouse Fisheries Information Network (FIN) Derived products from VMS and VTR available on NEODP	ACCSP cannot currently accept private/OWE industry data.
<b>Metadata</b>	OES-Environmental metadatabase (in Tethys Knowledgebase)	InPort only accepts federal metadata.
<b>Oceanographic and Biodiversity</b>	OBIS-SEAMAP database MARACOOS OceansMap web portal NERACOOS ERRDAP	May expand the MBON project to include biodiversity data accessible on the ERRDAP server.  Mayflower Wind buoy data may be provided on ERRDAP server in future.
<b>Derived Data Products</b>	Northeast Ocean Data Portal (NEODP) Mid-Atlantic (MARCO) Data Portal	Currently only house derived data products but could possibly be expanded to host raw data and/or private/OWE industry data.

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# Summary

1. Currently, privately collected data for which a database does not exist must be hosted on the developer's website or made directly available to users by request. This includes most types of operational data.
2. Data should be collected in a format that is compatible with existing surveys and databases through development and inclusion of standardized protocols, effort data, and metadata.
3. OWE developers should emulate sampling protocols and gear designs consistent with regional-scale data collection programs wherever possible, but must also include surveys that can detect effects at their specific sites.

**TAKEAWAY: No clear protocols or infrastructure in place for developers to submit or share fisheries independent surveys or monitoring data.**

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**Thank you!**

**Questions?**

**Contact: Alicia Morandi**  
**[alicia.morandi@rpsgroup.com](mailto:alicia.morandi@rpsgroup.com)**

# Breakout Groups

- Breakouts (20 minutes)
- Breakout groups: Council members and Research Advisors; Council Alternates and ROSA Board of Directors members; General attendees stay in plenary/main Zoom room for same conversation
- Discussion topics:
  - What do you conclude or have learned from the report presentation?
  - What specifically and concretely should ROSA do next to increase data access and usability across projects?
- Brief report outs



# Data Accessibility- Next steps



- Subcommittee is reviewing and commenting on RPS draft report
- ROSA will compile feedback from breakout groups and reconvene subcommittee in early 2022 to hone and act on suggested next steps



BREAK

Back @2:46 ET





ROSA Outlook  
for 2022:  
Regional  
Framework



# Need for Regional Research Framework



PARTNERSHIP  
COOPERATIVE RESEARCH  
DATA ACCESS  
COMMUNICATION

- There are many good and thoughtful identified research needs from RODA's recent work to the joint effort in *Synthesis of the Science* to NYSERDA's *State of the Science*
- However, there is no shared framework or understanding of cross-sector prioritized research that could help focus existing resources now
- Several large state/developer funds are being established that are seeking to at least be informed by region-wide priorities

# Regional Research Framework

- *Overview:* Identified as priority after the March 2021 AC meeting, and developed further on in June 2021 AC meeting.
- *Progress to date:*
  - May 2021- Initial subcommittee meeting to discuss goals and scope of regional framework
  - June 2021 – Draft thought piece developed and circulated to subcommittee
  - July 2021 – Comments received and document redrafted; subcommittee suggests developing draft RFP and a “list of lists” of research frameworks already developed
  - August-September 2021- Research frameworks compiled into table; RFP tasks developed
  - October 2021: Revised framework sent to subcommittee; two meetings held to discuss the revision
  - December 2021: Two-part plan developed and shared with subcommittee; comments received. RODA priorities added.

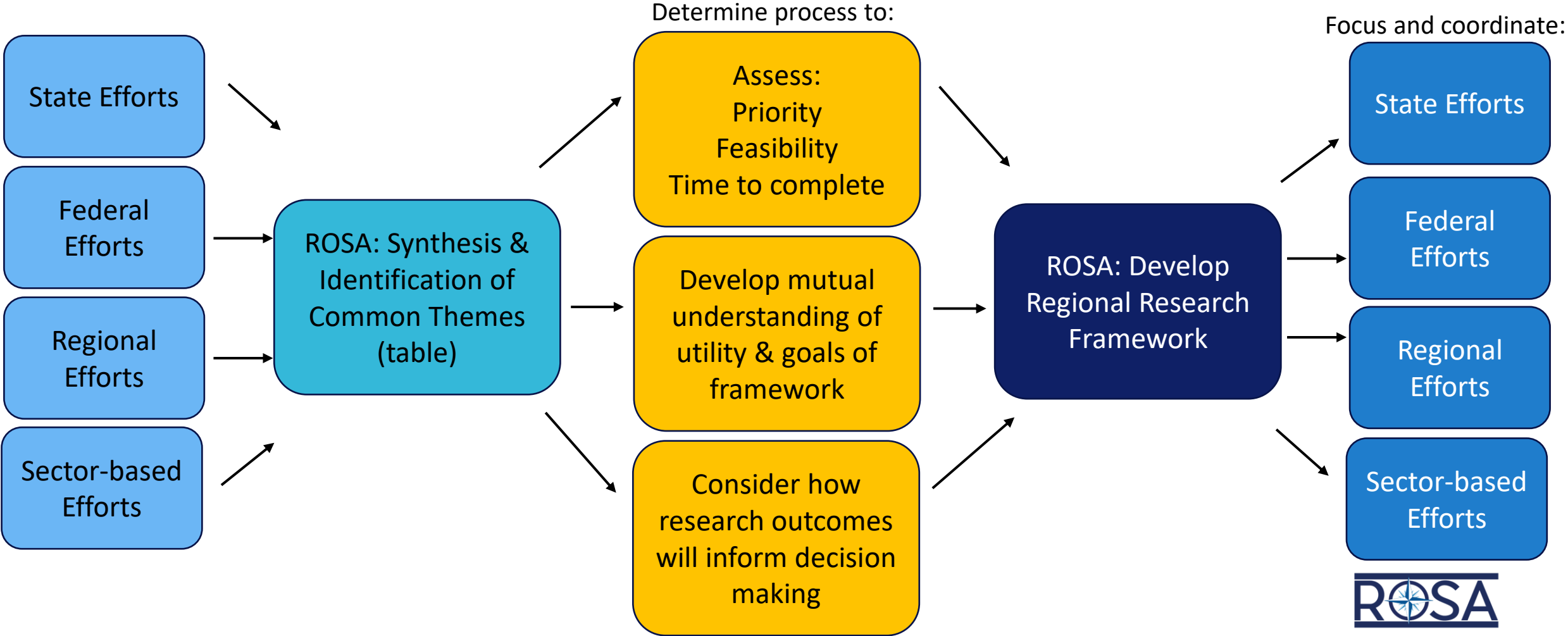
## Subcommittee

### Volunteers & Invitees :

- Greg Lampman
- Andy Lipsky
- Colleen Brust
- Mike Sissenwine
- Fiona Hogan
- Lisa Methratta
- Michelle Bachman
- Greg DeCelles
- Doug Christel
- Dave Secor

# Regional Research Framework

*Many efforts have identified research gaps and needs. What's missing is a Choice-Making process to refine, hone and prioritize these topics*



# Regional Research Framework

- Summary table of priorities: 18 sources consulted; 12 sources incorporated into table; 9 common themes

<b>Common Themes (9)</b>
Impacts to fishing (21)
Impacts to resource monitoring (5)
Impacts to habitat/ecosystem (12)
Impacts to fish populations (9)
Impacts to fish from noise, vibration, and sound pressure (11)
Impacts to fish from EMF (5)
Impacts from changes in light level (2)
Measure regional and cumulative impacts (2)
Other (7)

Impacts to resource monitoring	Novel survey methods	NJ
	Adapt existing surveys and calibrate new time series	NJ2
	Effect on stock assessments and the impact of additional uncertainty	NEFMC, RODA
	Model data integration	NJ
	Investigate use of turbine structures for passive monitoring	NJ, BOEM

# Regional Research Framework: Example

- Bats and Wind Energy Cooperative

- <https://www.batsandwind.org/assets/pdfs/bwec-2018-science-meeting-proceedings.pdf>

## 5.3 Bat behavior at and around turbines

In 2018, BWEC determined two top priorities for understanding bat behavior at and around turbines. These are developing a decision framework for behavioral studies to prioritize what research questions could or should be answered through behavioral studies and advancing the use of thermal videography to understand bat activity near wind turbines.

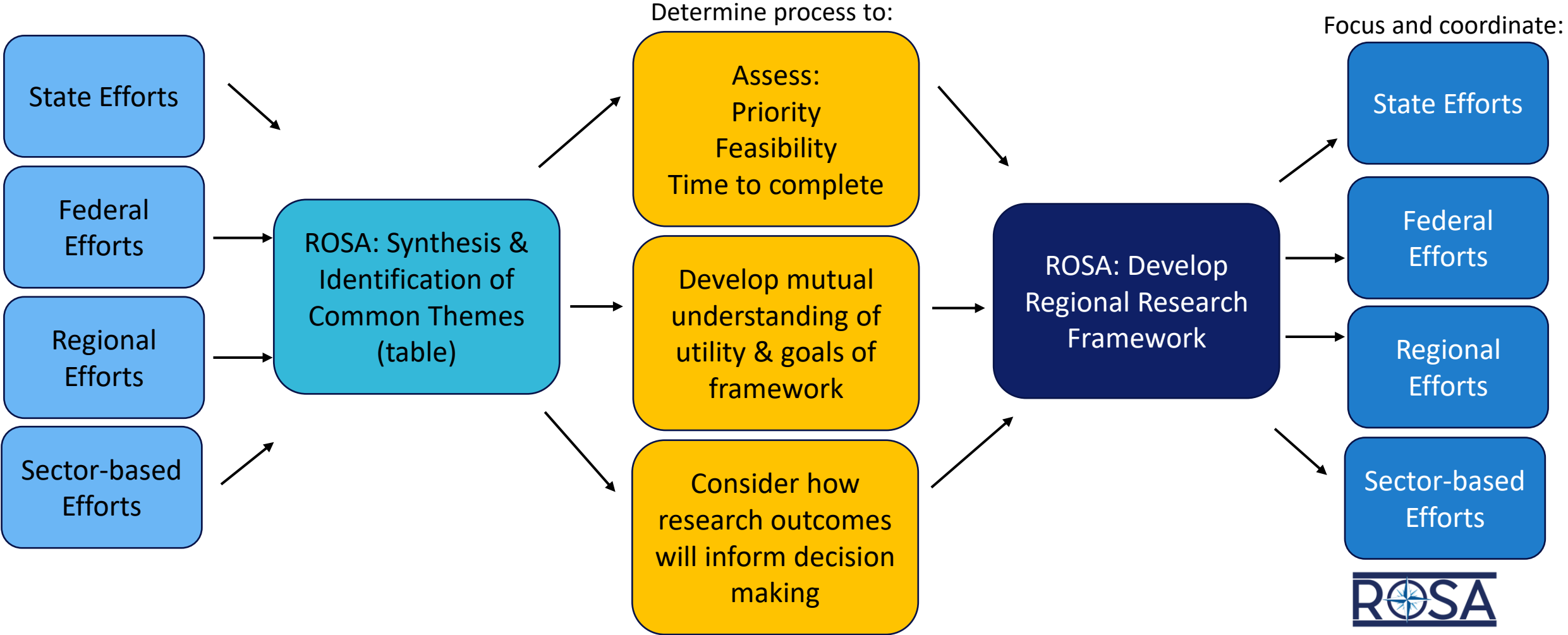
Comments from participant discussion included:

- It is important that industry support for such studies be placed in the context of questions that can lead to answering key policy or management questions.
- Efforts should be made to continue to track the development of real-time detection technologies, but BWEC should not make this its own priority.

Priority <sup>a</sup>	Time <sup>b</sup>	Feasibility <sup>c</sup>	Objective	Action	Who	Notes
1	1	E	<i>Develop a decision framework for behavior studies</i>	<ul style="list-style-type: none"> <li>Develop a list of research questions for behavioral studies (primarily focused on using thermal video cameras) that are ranked by species, priority and timeframe and what methods/tools or suite of such may be best suited to answer such questions</li> </ul>	BCI, USGS, USFS	<ul style="list-style-type: none"> <li>Questions include: Can thermal video cameras be used to 1) quantify bat-turbine interactions; 2) compare behavior among treatments or new technologies; 3) correlate observed bat collisions with wind speed, blade speed, temperature, etc.; 4) assess the location of collisions relative to blade length and height, and 5) refine placement and orientation of deterrent technology?</li> </ul>
1	2	D	<i>Use thermal videography to understand bat activity and behavior near wind turbines</i>	<ul style="list-style-type: none"> <li>Conduct experimental studies to refine how thermal videography can be used to answer specific questions</li> </ul>	USGS & BCI	<ul style="list-style-type: none"> <li>Tied to #1</li> </ul>
2	2	M	<i>Refine thermal videography field, analysis and modeling methodology</i>	<ul style="list-style-type: none"> <li>Refine equipment, methods, processing and modeling, including 3D analysis</li> </ul>	BCI, USGS, Univ of Hawaii	<ul style="list-style-type: none"> <li>Tied to #1</li> <li>Consider how to use in conjunction with other methods (e.g., acoustics or fatality estimation surveys).</li> </ul>

# Regional Research Framework

*Many efforts have identified research gaps and needs. What's missing is a Choice-Making process to refine, hone and prioritize these topics*



# Regional Research Framework – Next Steps



- ROSA and subcommittee will refine scope of Regional Framework - early 2022
- Issue RFP, evaluate proposals, start work – Spring 2022
- Report to ROSA: mid-2022

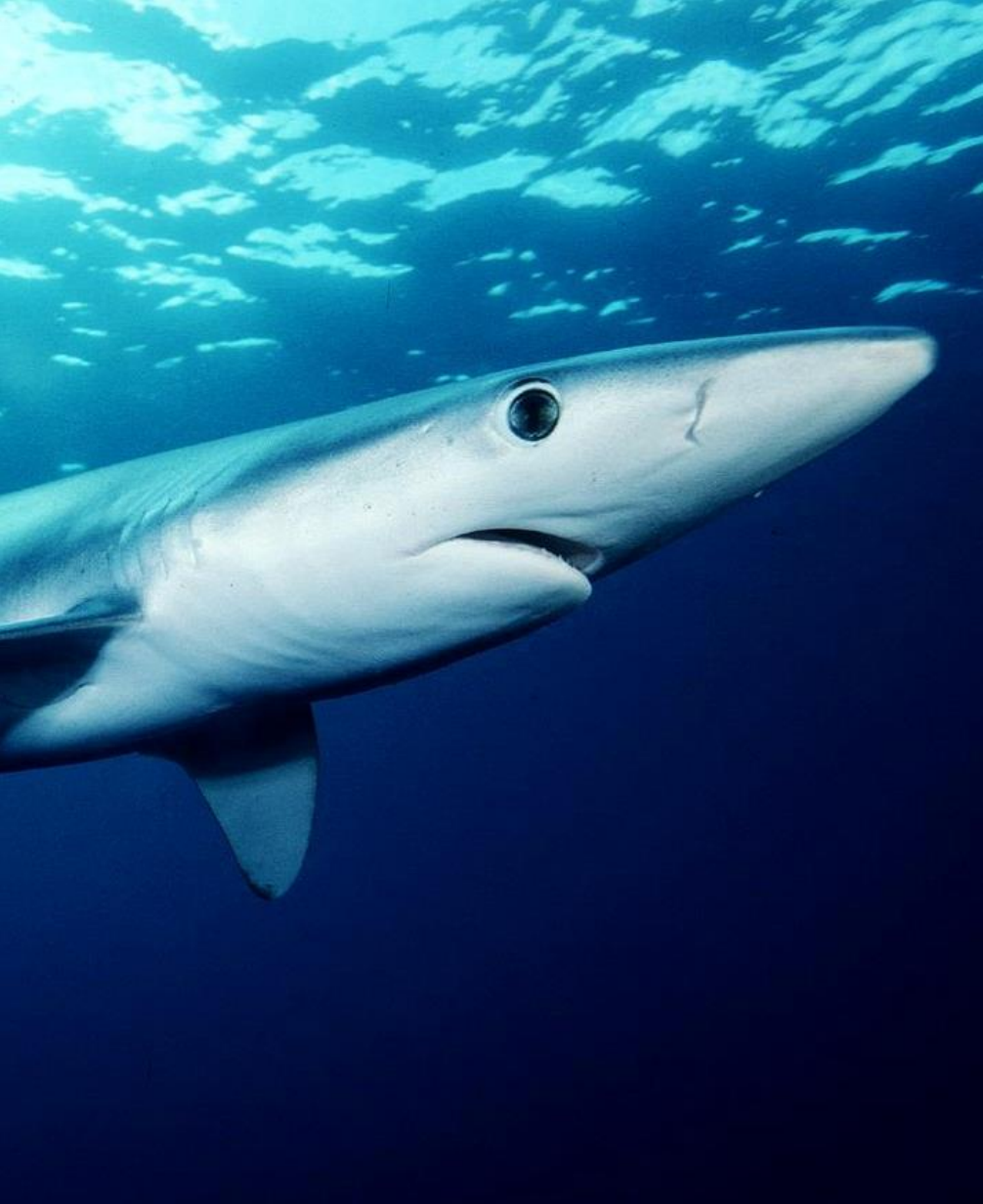




ROSA Outlook  
for 2022:  
Launching Initial  
ROSA Funded  
Research



# Need for Research Actions Now



- Assessing regional impacts is central to ROSA's mission
- Few or no clear approaches to this regional assessment approach with the current focus regulatory and otherwise on project-specific efforts
- Although there is the need to be thoughtful and strategic, the ROSA Board has identified that there is the need to address regional research gaps quickly with the accelerating development of OSW
- There is also an immediate need to reduce uncertainty as offshore wind projects advance
- ROSA needs to build its ability to manage research

# ROSA Funded Research

- **Administering and completing research is a complex task**
  - Development of Requests for Proposals- *2-4 months*
  - Open RFP period (pre- and full proposals)- *1-6 months*
  - Review of proposals- *1-3 months*
  - Contracting- *1-3 months*
  - Obtaining permits and collecting of data- *1-3 years*
  - Assessing results and conclusions- *2-6 months*
  - **Time from RFP idea until study outcomes are known- 1.5 to 5 years or more**

***In order to continue to make progress and address the sense of urgency, we have an opportunity to pilot research at a small scale while we continue strategic planning***

# ROSA Funded Research Ideas

- Critical gap for ROSA and region to address: techniques, strategies, and/or research to assess regional impacts
- Another potential aspect is short-term, critical needs using existing technologies and techniques that have broad impact
- Examples could include regional approaches, or common database development, or other efforts
- Pilot effort would be relatively short-term and low cost (~1 year, \$200k)
- Subcommittee of disinterested Research Advisors to hone and launch RFP, and participate in selection and oversight in conjunction with ROSA Board and Framework Subcommittee

# Breakout Groups

- 30 minutes
- Breakouts: Council members and Research ; Council Alternates and ROSA Board of Directors members; General attendees stay in Plenary/main Zoom room for same conversation
- Discussion topics:
  - What key areas or themes should be the focus of the RFP?
  - What criteria should be used to evaluate proposals?
- Brief report outs/mentimeter



# Next Steps

- Data Sharing and Accessibility subcommittee will evaluate RPS report and breakout group feedback to hone and act on suggested next steps
- ROSA and subcommittee will refine scope of Regional Framework- RFP anticipated early 2022
- ROSA will use feedback from breakout groups to determine next steps for ROSA funded research and identify Research Advisors who can help scope RFP
- ROSA staff will continue to address priority topics, including finalizing work plans for subcommittees and discussing strategies
- Please reach out to us with topics of interest for meetings or sector-specific calls ([lyndie@rosascience.org](mailto:lyndie@rosascience.org) or [mike@rosascience.org](mailto:mike@rosascience.org))
- Next quarterly meeting will likely be March 2022