Oregon Offshore Wind Energy Planning Public Webinar

May 12-13, 2021

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Bureau of Ocean Energy Management (BOEM) Pacific Regional Office

Andy Lanier
Oregon Department of Land Conservation and Development (DLCD)

Facilitated by Jamie Damon, Kearns & West

For help with technical difficulties, please contact Bianca Valdez (bvaldez@kearnswest.com, (210) 325-9455) for assistance.
Webinar will be recorded.

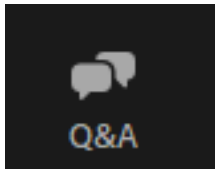
Agenda

Time	Topic
10 min	Introductions, Agenda Review, and Webinar Guidelines
10 min	Welcome and Opening Remarks
20 min	Overview of Offshore Wind Energy Planning in Oregon
20 min	OROWindMap and Data Catalog Update
5 min	Summary and Next Steps
Open	Public Input and Q&A

Webinar Participation Tips

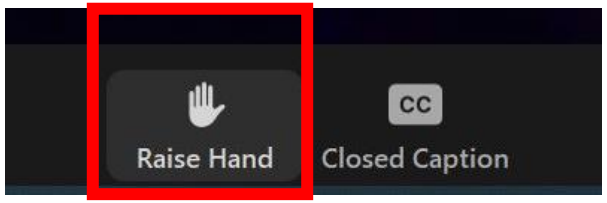
Please join audio by either phone or computer, not both.

Use the Q&A webinar feature to ask <u>substantive questions</u> or to provide <u>feedback</u> during the presentation



- Questions will be addressed in the Q&A section

<u>During the Q&A section</u>, use "Raise Your Hand" button to get in the queue; if joined by phone, press *9 to raise hand



- Facilitator will call on you
- Say your name and affiliation before speaking
- For Zoom technical issues, email **bvaldez@kearnswest.com**
- or call (210) 325-9455

Meeting recording and presentation will be posted at www.boem.gov/oregon-virtual-meeting-room

Meeting Participation Ground Rules

Submit comments and/or questions in the chat feature or verbally during the public input session

Comments for discussion should be raised during the public input session

Be respectful of speaking time during the public input session

Respect differences of opinion and perspectives

Listen and speak with respect

Welcome and Opening Remarks

Necy Sumait, Renewable Energy Section Chief
BOEM Pacific Regional Office

Overview of Offshore Wind Energy Planning in Oregon

Whitney Hauer, Ph.D, Renewable Energy Specialist
BOEM Pacific Regional Office

Offshore Wind Energy Resource and Technologies

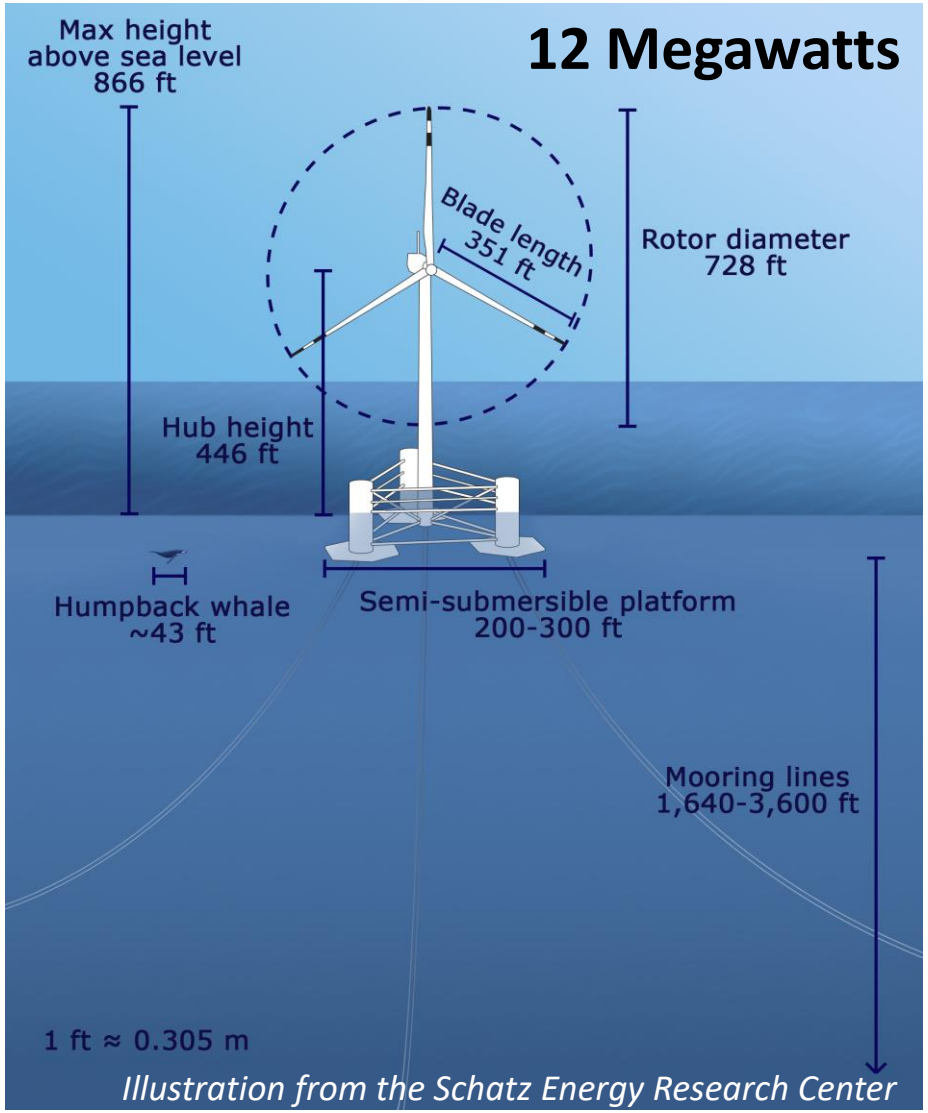


Illustration from the Schatz Energy Research Center

Strong and consistent wind energy resource offshore

Fixed-bottom foundations

- Shallow waters (<60 m)

Floating systems

- Deep waters (>60 m)

Floating offshore wind technology likely for the West Coast

Turbine technology at 12 MW available for deployment

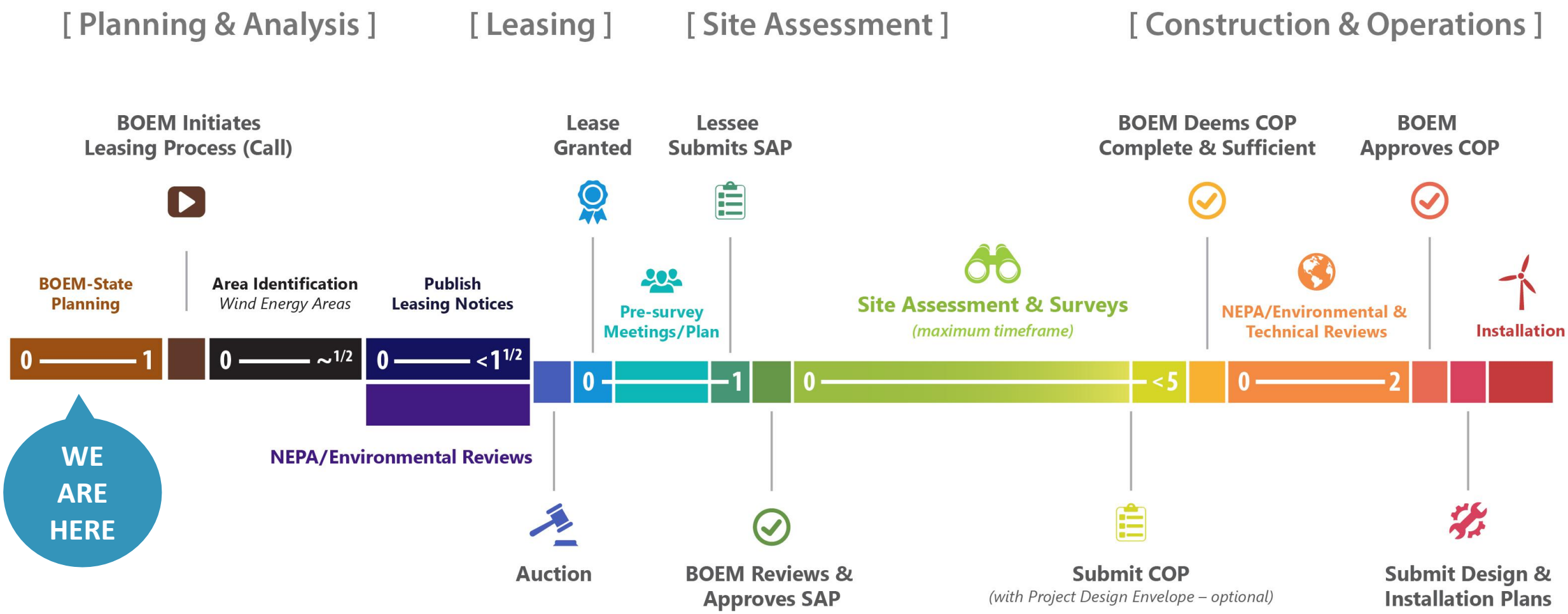
Bureau of Ocean Energy Management (BOEM)

Mission: Manage the development of U.S. Outer Continental Shelf (OCS) energy and mineral resources in an environmentally and economically responsible way.

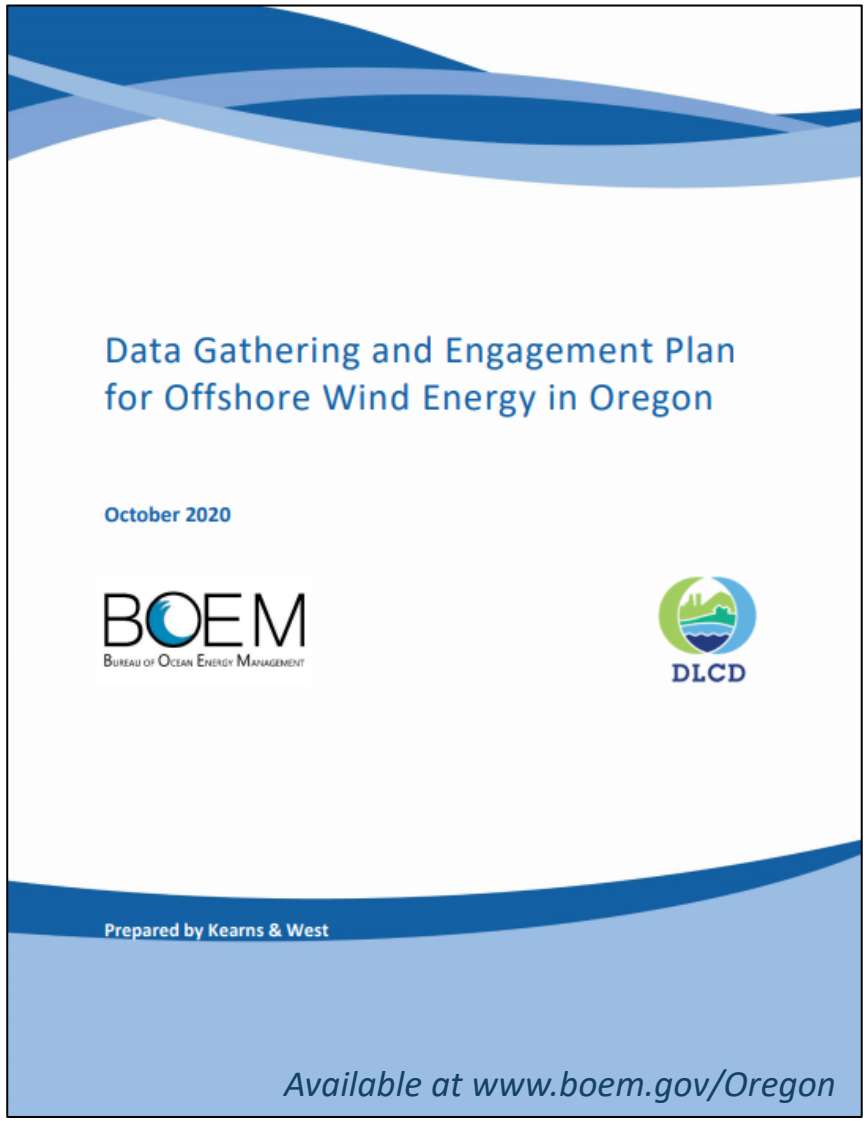
Jurisdiction on the U.S. West Coast

- Federal waters from 3 to 200 nautical miles (i.e., the OCS)
- Excludes National Marine Sanctuaries

BOEM Offshore Wind Energy Authorization Process



BOEM Oregon Intergovernmental Renewable Energy Task Force



Provides coordination with governmental bodies and input into BOEM's renewable energy leasing process

September 2019 meeting: discussed planning approach

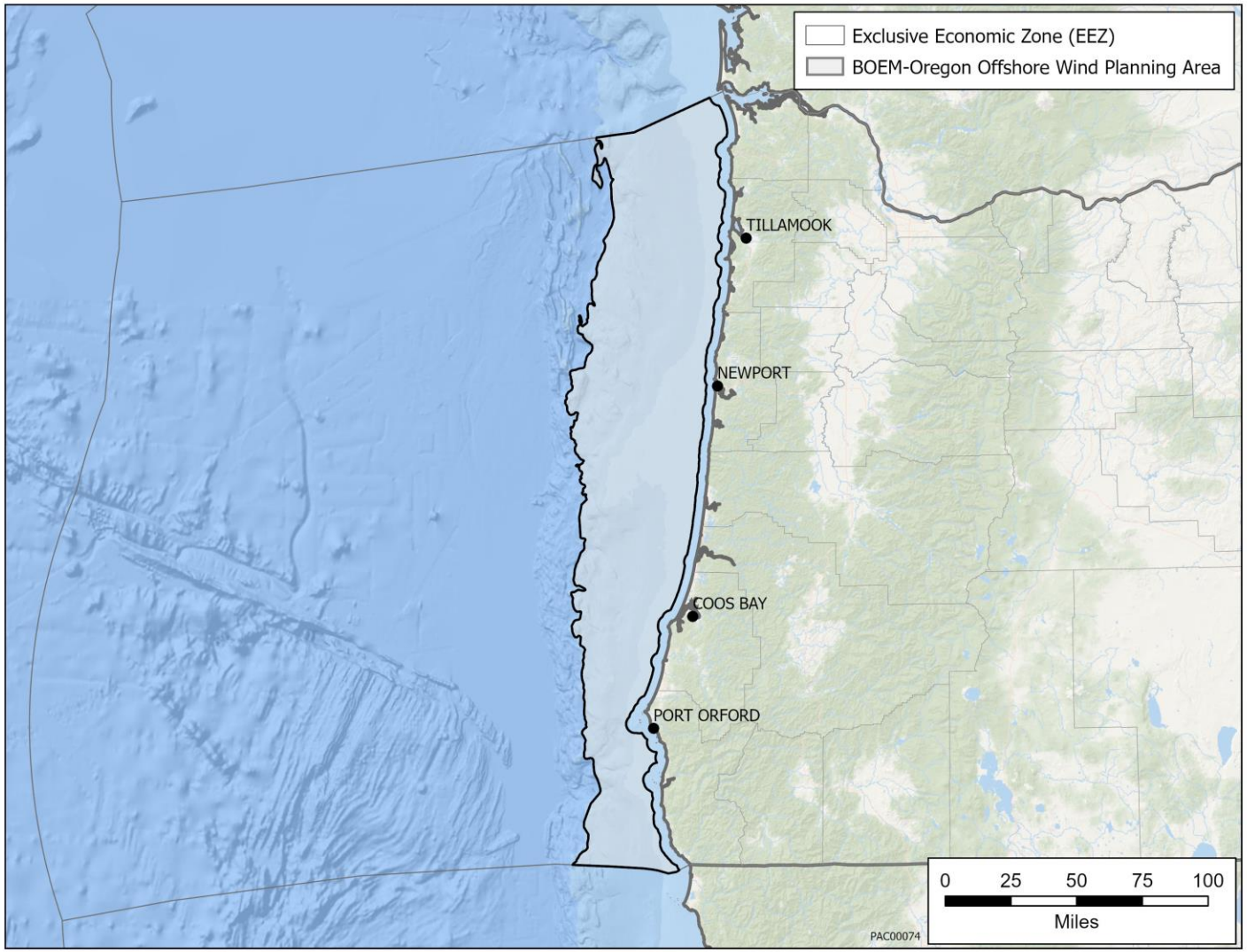
- Result: BOEM and DLCD drafted data gathering and engagement plan
- Oregon Ocean Policy Advisory Council (OPAC) letter to the Governor supports planning

June 2020 meeting: discussed draft plan

- Result: BOEM and the State of Oregon committed to offshore wind energy planning

October 2020: BOEM and DLCD finalized "Data Gathering and Engagement Plan for Offshore Wind Energy in Oregon"

Oregon Offshore Wind Energy Planning



Oregon Offshore Wind Mapping Tool (OROWindMap)

Potential Area for Leasing:

- Federal waters offshore Oregon
- Water depths <1,300 m (4,625 ft)
- Average wind speed >7 m/s (13.6 knots)

Planning Area: State and federal waters, and onshore with pertinent data and information

Oregon Offshore Wind Energy Planning Progress

Material development

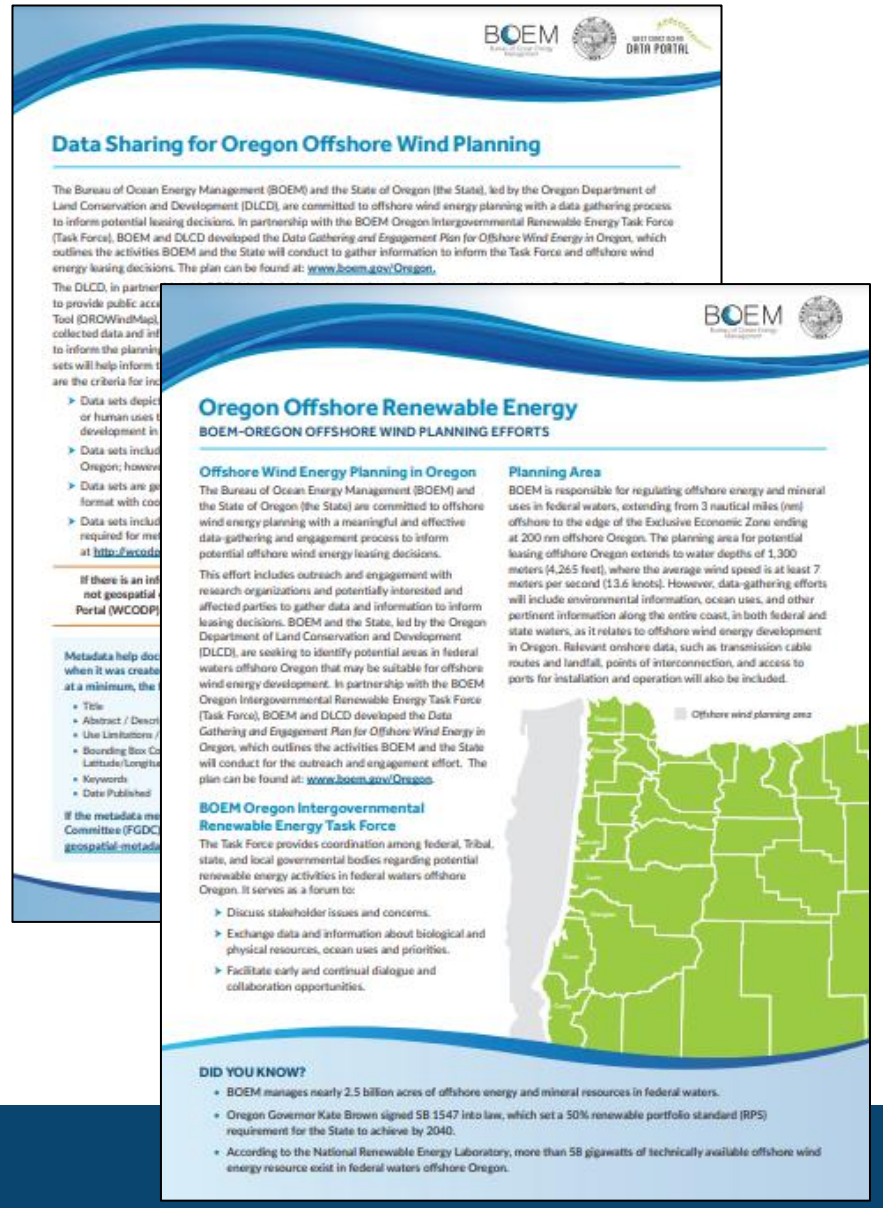
- Developed factsheets on planning effort and OROWindMap

Website and email information updates

- Regular communication with the Task Force
- Updated webpage www.boem.gov/Oregon
  - Announcements and resources
  - Engagement activities
  - Standing meetings open to the public
  - Email signup at www.boem.gov/OregonUpdates
- Identified ~800 email contacts

Mapping tool development

- OROWindMap



Information-gathering

Outreach goal

- Interested and affected parties are informed of the data and information gathering process
- Have meaningful dialogues to provide input in the planning process

Target audience

- Coastal communities
- Ocean users
- Research organizations
- Tribes

Flexible in a virtual environment

- Present when invited and request time at standing meetings
- Convene focused conversations
- Available for follow-up discussions

Each meeting

- Invite comments and participation in the data gathering and review
- Solicit other groups to engage

Planning Progress: Coastal Communities and General Public

Confirmed/scheduled

Tentative/planning

Nov 2020

- **Oregon Coast Energy Alliance Network meeting**
  21 participants
- **Oregon Coastal Zone Management Association meeting**
  45 participants

Dec

- **Oregon Ocean Policy Advisory Council meeting**

Jan- Feb 2021

- **One-on-one meetings with local officials and State Representatives**

Mar

- **One-on-one meeting with U.S. Congressional Staff**
- **Portland Audubon educational webinar**
  73 participants
- **Lincoln County Board of Commissioner meeting**
  21+ participants
- **Tillamook County Board of Commissioner meeting**
  29+ participants

Apr

- **Environmental NGO meeting**
  10 environmental NGOs participated

May

- **Reedsport City Council Meeting**
  14+ participants
- **Public Webinars**

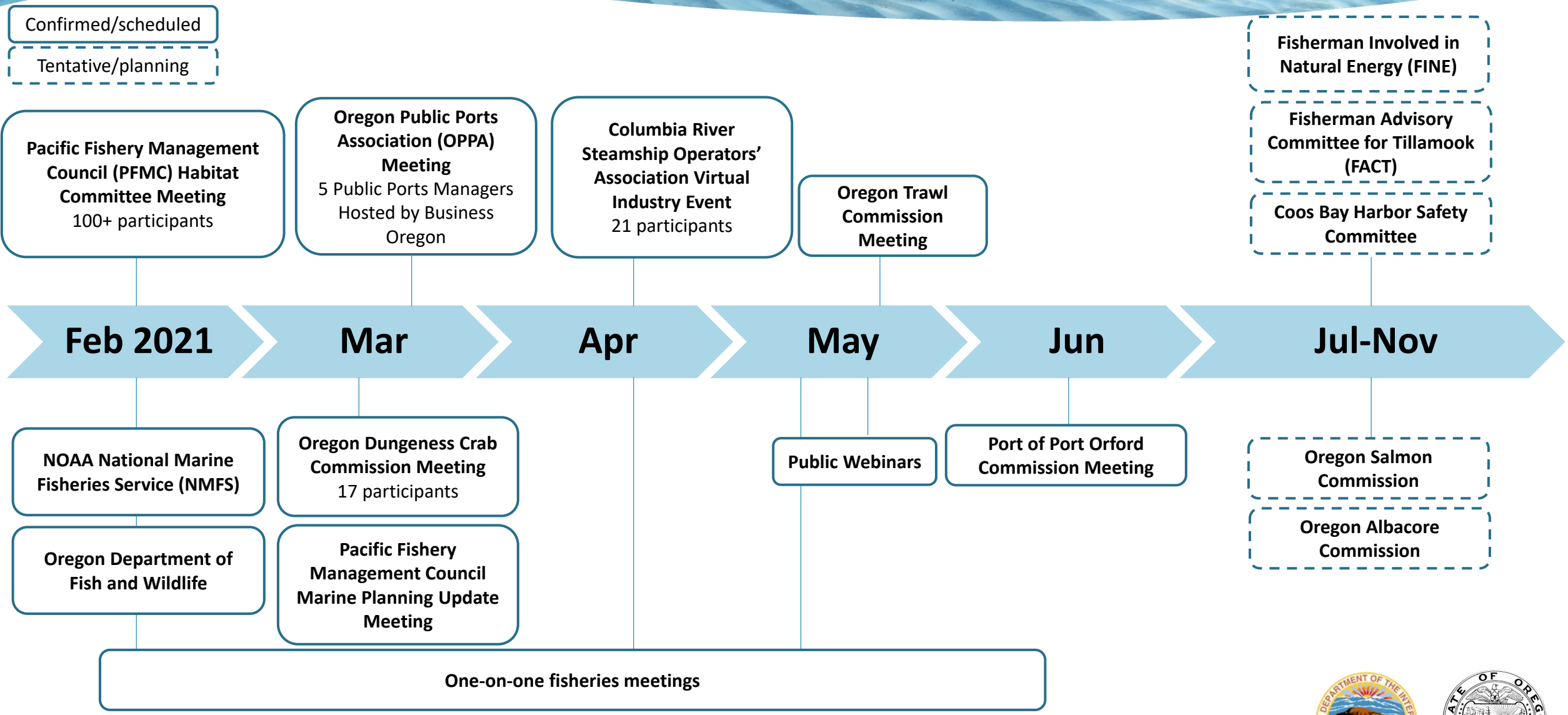
Jun

- **Curry County Board of Commissioner meeting**
- **Florence City Council Meeting**

Jul-Nov

- **Coos County Board of Commissioner meeting**
- **Newport City Council Meeting**

Planning Progress: Ocean Users



BOEM Bureau of Ocean Energy Management

Planning Progress: Research Organizations

OROWindMap Introductory Webinar

- Functionality of OROWindMap
- ~140 Participants
- Recording available at www.boem.gov/Oregon

Request

- Participation in a data review working group

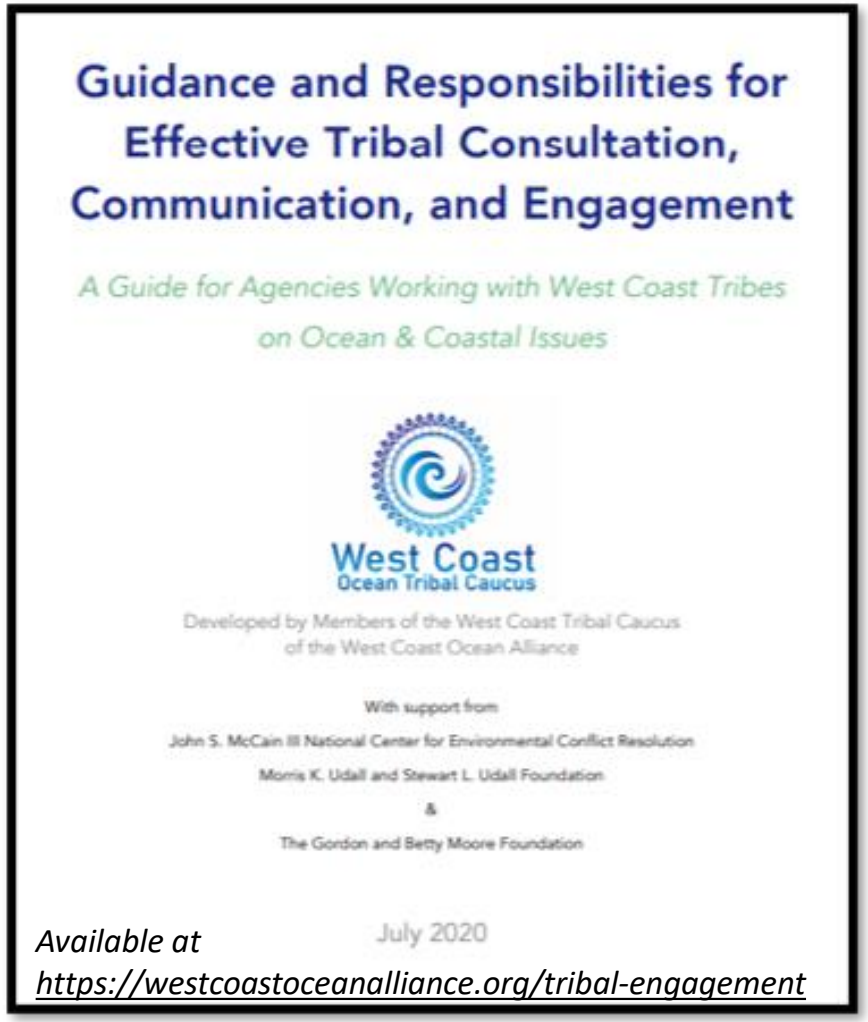
Planning Progress: Tribes

Engagement to Date

- West Coast Ocean Tribal Caucus guidance incorporated into Plan
- Engagement invitation letters to 9 federally recognized Tribes in Oregon (Feb 2021)
- Staff-to-staff meeting with Coquille Indian Tribe (Mar 2021)
- West Coast Ocean Alliance Ocean Energy Roundtable (Mar 2021)
- Regular updates for West Coast Ocean Tribal Caucus

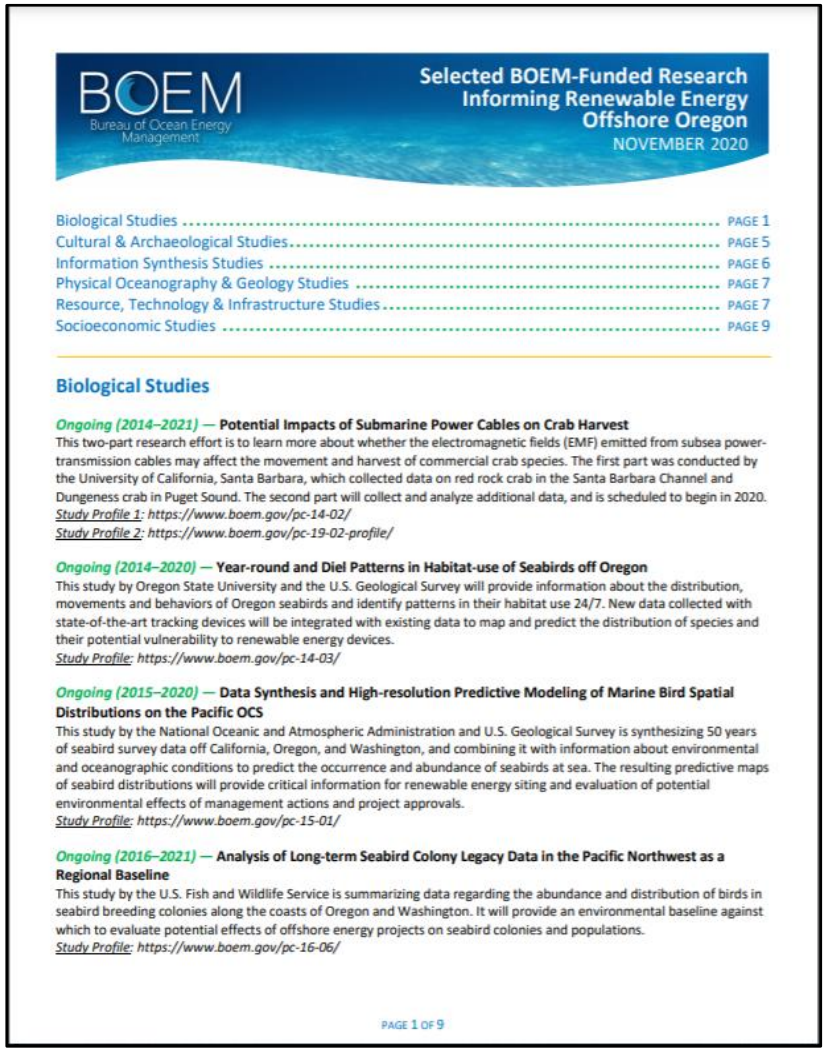
Forthcoming

- Engagement invitation letters to federally recognized Tribes outside of Oregon
- Outreach to Tribal organizations



Available at https://westcoastoceanalliance.org/tribal-engagement

Selected Studies to Inform Wind Energy Planning on the West Coast



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Bureau of Ocean Energy Management

Selected BOEM-Funded Research Informing Renewable Energy Offshore Oregon
NOVEMBER 2020

Biological Studies

Ongoing (2014–2021) — **Potential Impacts of Submarine Power Cables on Crab Harvest**
This two-part research effort is to learn more about whether the electromagnetic fields (EMF) emitted from subsea power-transmission cables may affect the movement and harvest of commercial crab species. The first part was conducted by the University of California, Santa Barbara, which collected data on red rock crab in the Santa Barbara Channel and Dungeness crab in Puget Sound. The second part will collect and analyze additional data, and is scheduled to begin in 2020.
Study Profile 1: https://www.boem.gov/pc-14-02/
Study Profile 2: https://www.boem.gov/pc-19-02-profile/

Ongoing (2014–2020) — **Year-round and Diel Patterns in Habitat-use of Seabirds off Oregon**
This study by Oregon State University and the U.S. Geological Survey will provide information about the distribution, movements and behaviors of Oregon seabirds and identify patterns in their habitat use 24/7. New data collected with state-of-the-art tracking devices will be integrated with existing data to map and predict the distribution of species and their potential vulnerability to renewable energy devices.
Study Profile: https://www.boem.gov/pc-14-03/

Ongoing (2015–2020) — **Data Synthesis and High-resolution Predictive Modeling of Marine Bird Spatial Distributions on the Pacific OCS**
This study by the National Oceanic and Atmospheric Administration and U.S. Geological Survey is synthesizing 50 years of seabird survey data off California, Oregon, and Washington, and combining it with information about environmental and oceanographic conditions to predict the occurrence and abundance of seabirds at sea. The resulting predictive maps of seabird distributions will provide critical information for renewable energy siting and evaluation of potential environmental effects of management actions and project approvals.
Study Profile: https://www.boem.gov/pc-15-01/

Ongoing (2016–2021) — **Analysis of Long-term Seabird Colony Legacy Data in the Pacific Northwest as a Regional Baseline**
This study by the U.S. Fish and Wildlife Service is summarizing data regarding the abundance and distribution of birds in seabird breeding colonies along the coasts of Oregon and Washington. It will provide an environmental baseline against which to evaluate potential effects of offshore energy projects on seabird colonies and populations.
Study Profile: https://www.boem.gov/pc-16-06/

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Available at www.boem.gov/Oregon

- **Passive acoustic monitoring** to understand the distribution of marine mammals
- **Whale movement video animation around floating offshore wind** and **simulations to inform entanglement risk** to whales
- **Seafloor mapping and site characterization surveys**
- **Metocean resource data collection** with LIDAR buoys in California
- **Oregon offshore wind grid integration** to inform the potential value of offshore wind energy to the Oregon power system
- **Floating offshore wind resource and costs** to inform planning efforts

Offshore Wind Energy Opportunities and Considerations

Opportunities

- World-class wind energy resource offshore Oregon
- Coastal resiliency and reliability
- Economic growth opportunity

Planning Considerations

- Space-use conflicts with ocean users
- Maritime communities
- Coastal viewsheds
- Marine mammals and birds
- Cultural and archaeological resources
- Potential export cable routes
- Transmission

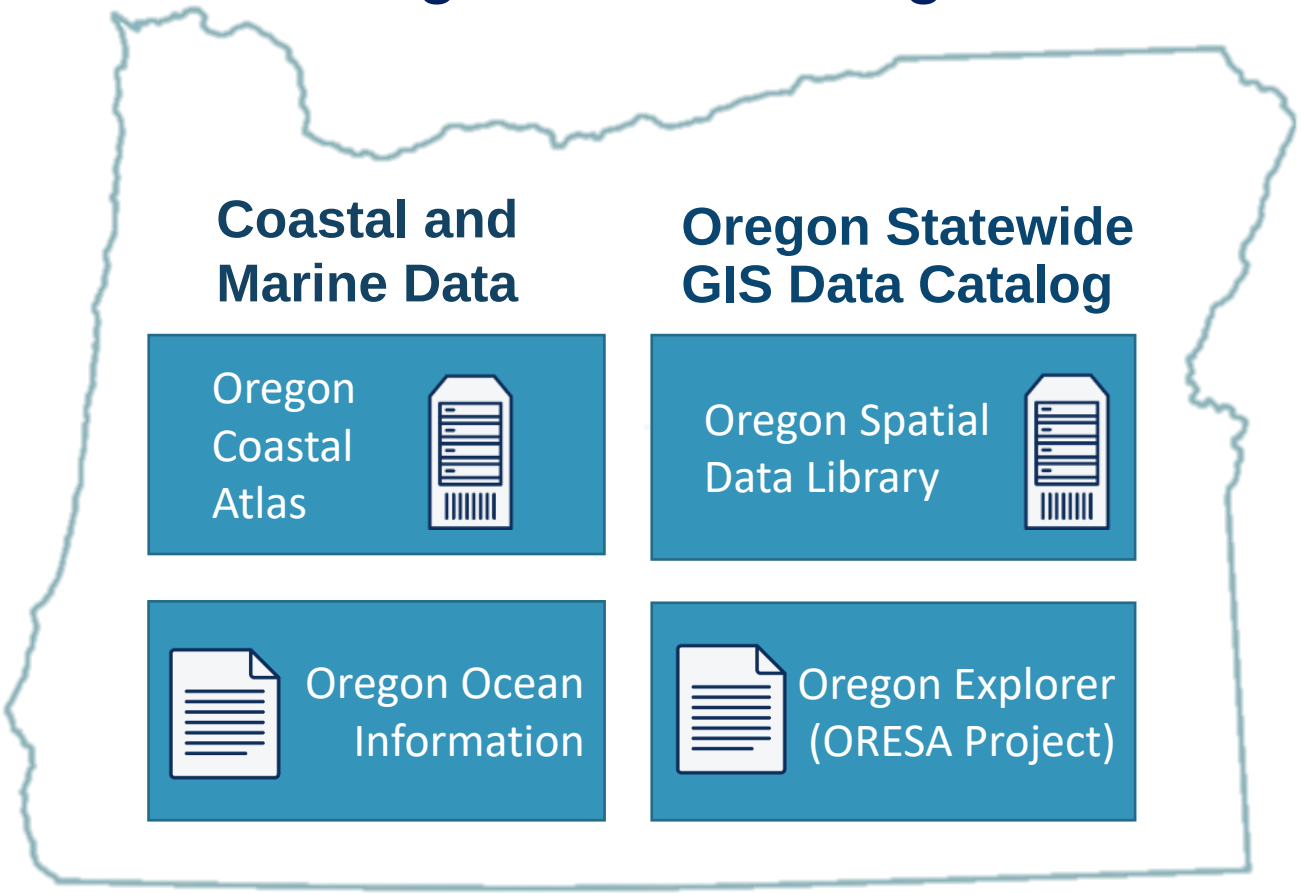
BOEM and DLCD are seeking your input

Oregon Offshore Wind Mapping Tool (OROWindMap) and Data Catalog Update

Andy Lanier, Marine Affairs Coordinator
Oregon Department of Land Conservation and Development

Offshore Wind Data Catalog Organizational Plan

Oregon Data Catalogs



Coastal and Marine Data

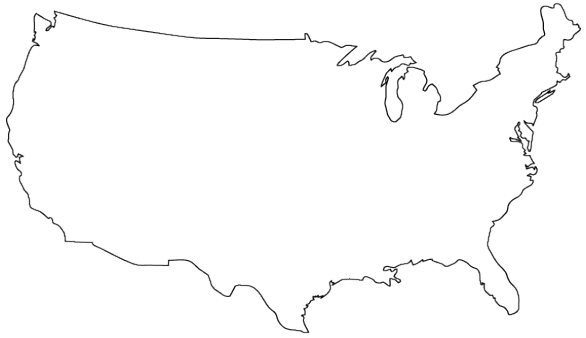
- Oregon Coastal Atlas
- Oregon Ocean Information

Oregon Statewide GIS Data Catalog

- Oregon Spatial Data Library
- Oregon Explorer (ORESA Project)

+

Federal Data Catalogs



- **Marine Cadastre**
- **Ocean Reporting Tool**
- **Digital Coast**
- **NOAA Fisheries (FRAM)**
- **NREL Data Catalog**
- **Ocean Observing Initiative**
- **USGS**
- **…and many more**

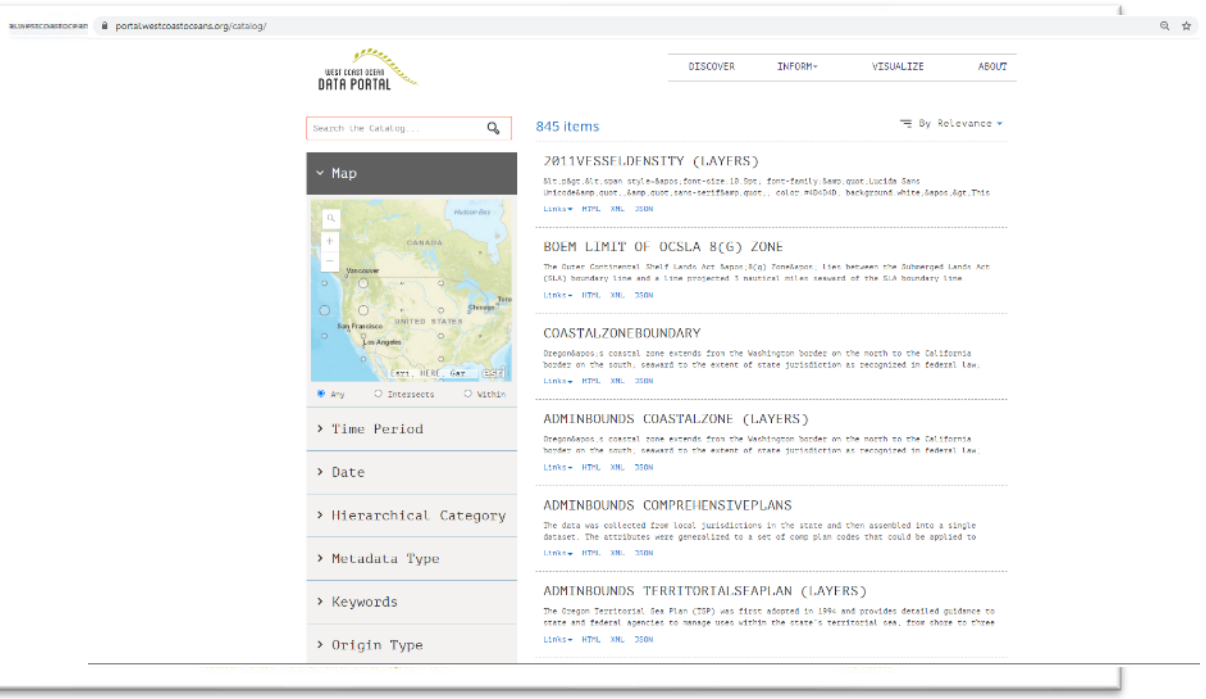
→ Curated Offshore Wind Catalog

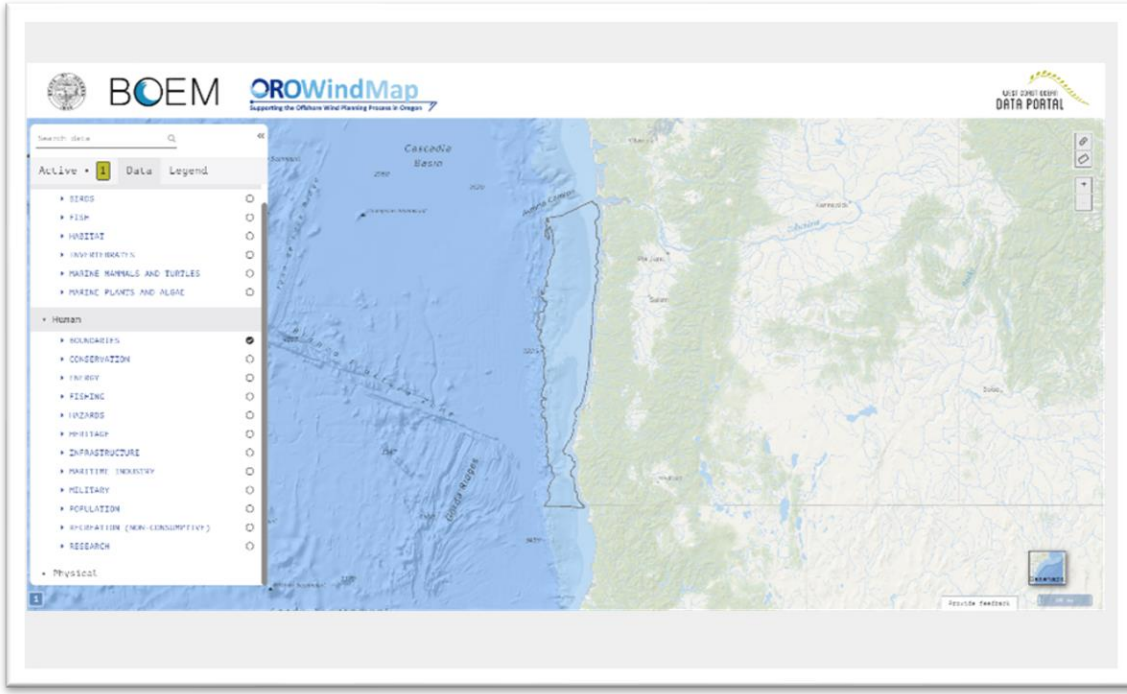
WEST COAST OCEAN DATA PORTAL

Offshore Wind Catalog (Combination of Records from Oregon and Federal Data Catalogs)

Catalog & Oregon Offshore Wind Mapping Tool

The Oregon Offshore Wind Mapping Tool (OROWindMap), found at https://offshorewind.westcoastoceans.org, has been developed to provide visualization capabilities for data that has been discovered through the catalog compiled and curated on the West Coast Ocean Data Portal.





Data Layers: Administrative Boundaries

Data Layers: Territorial Sea Plan & Visual Resources

BOEM

OROWindMap
Supporting the Offshore Wind Planning Process in Oregon

WEST COAST OCEAN DATA PORTAL

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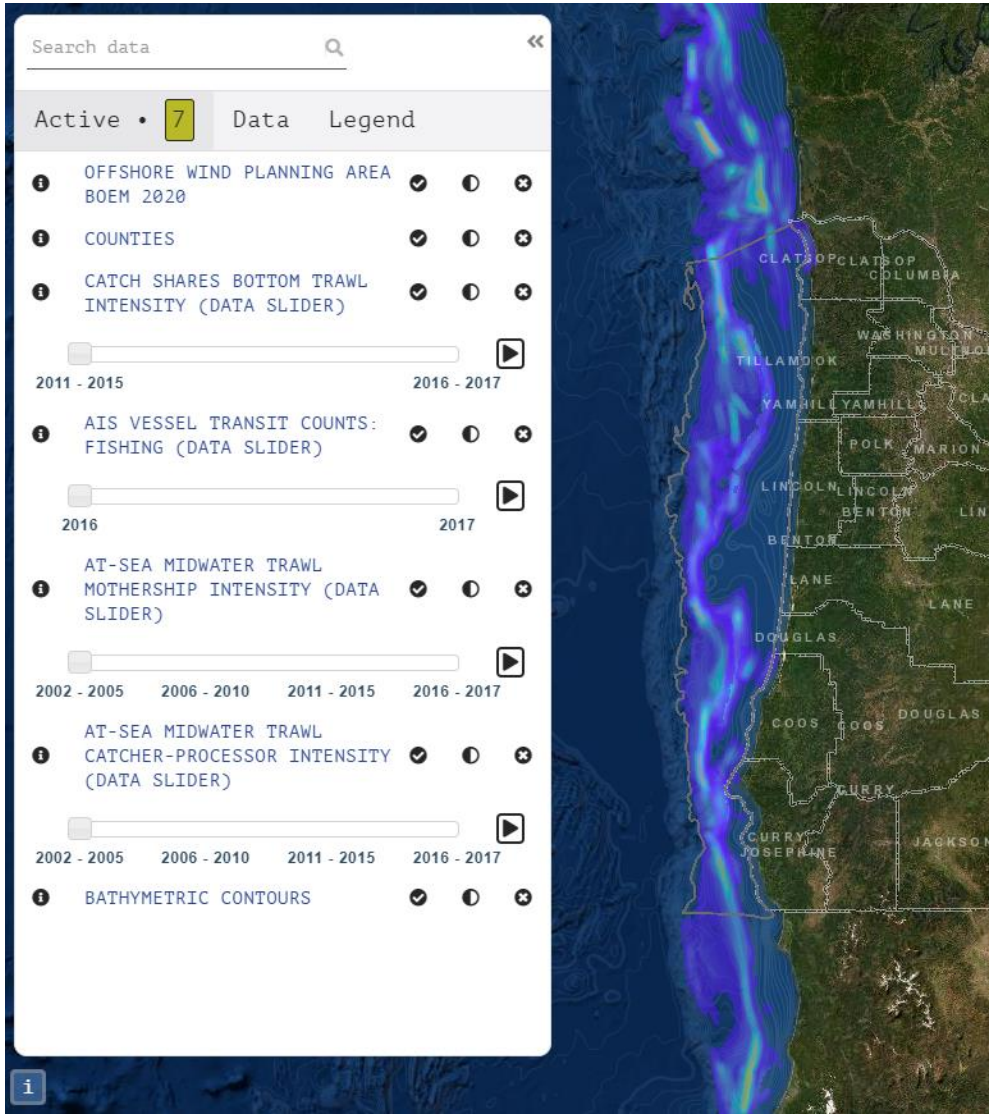
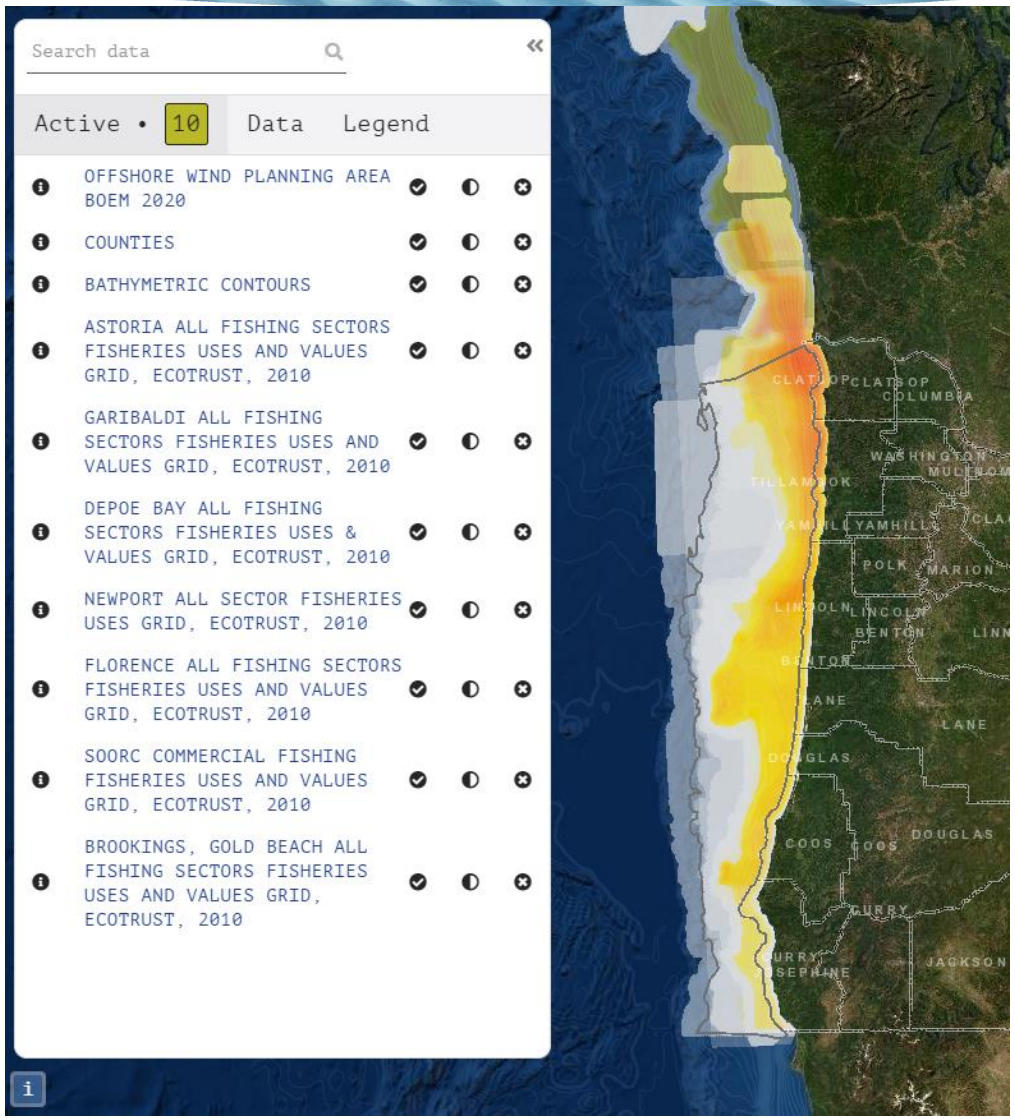
Data Layers: Marine Fisheries

NOAA Fisheries



TSP Part Five



Data Layers: Marine Transportation

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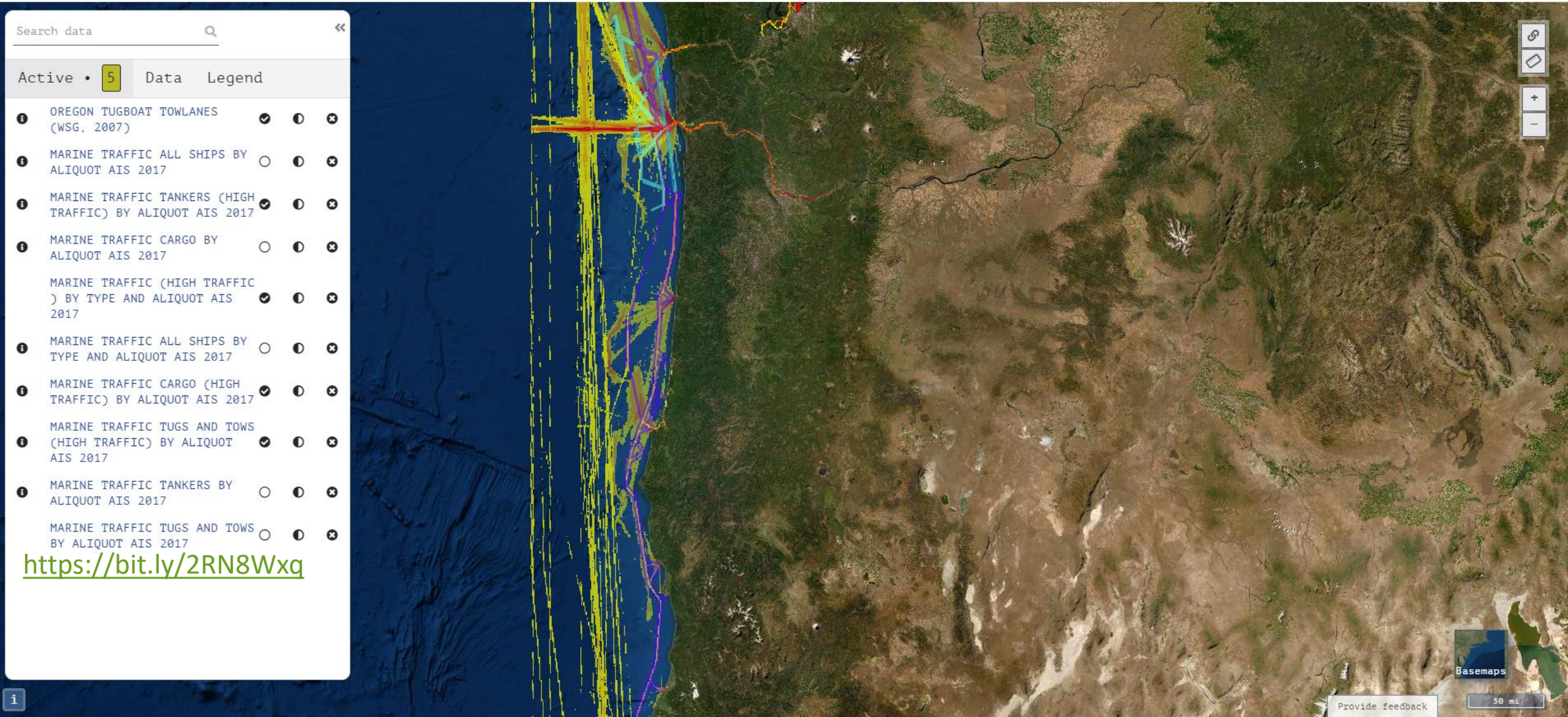

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Data Layers: Infrastructure

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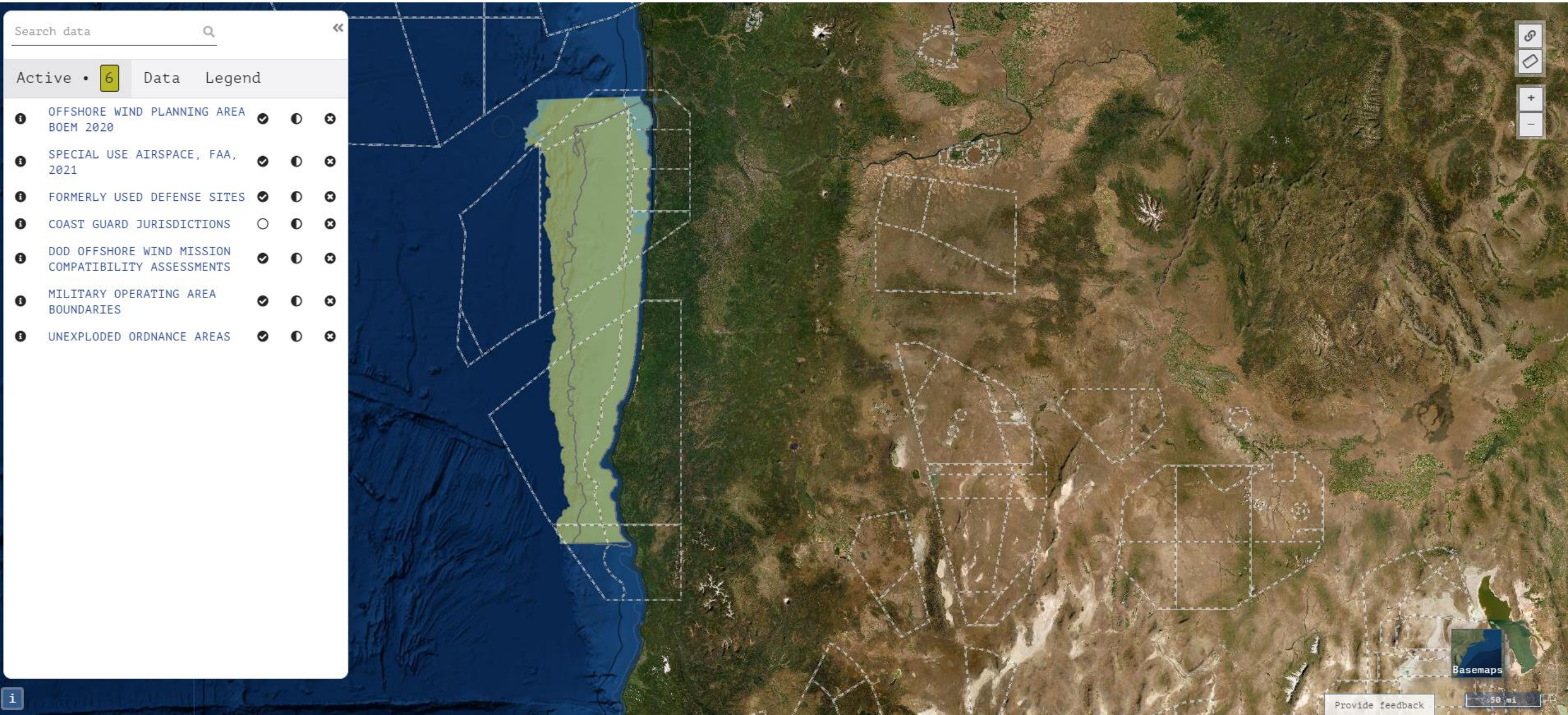
Data Layers: Military Use



Data Layers: Physical Setting

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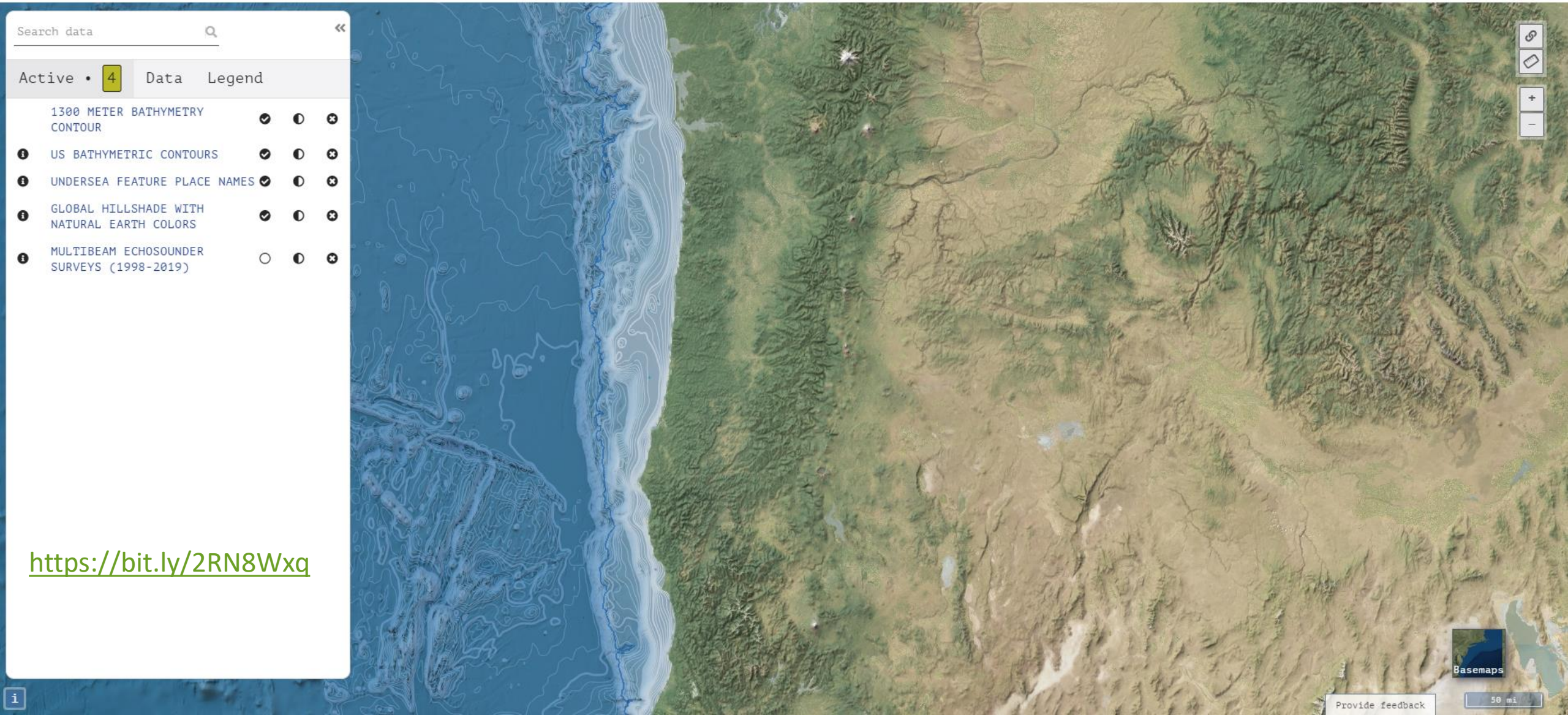

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Data Layers: Substrate, Landform, Samples

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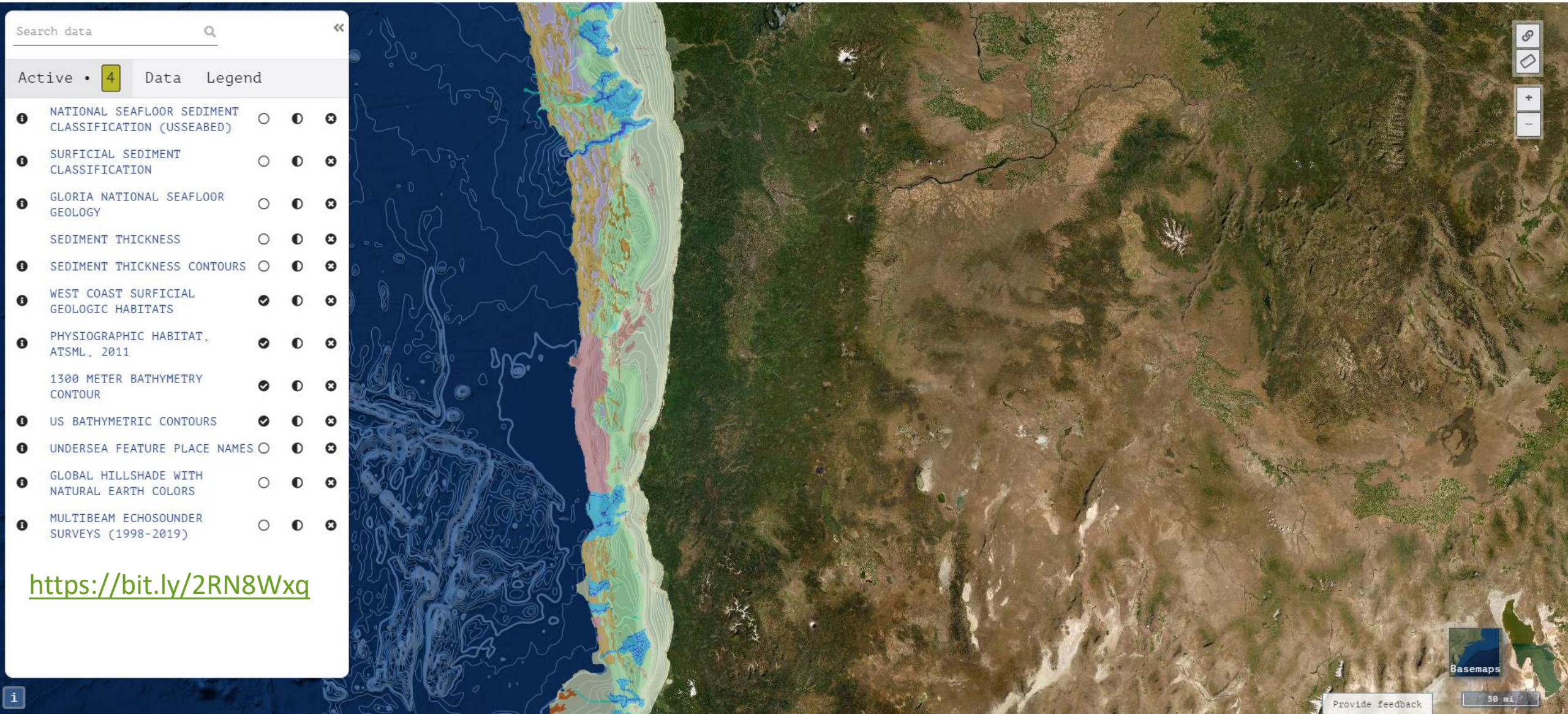

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Data Layers: Wind Resource

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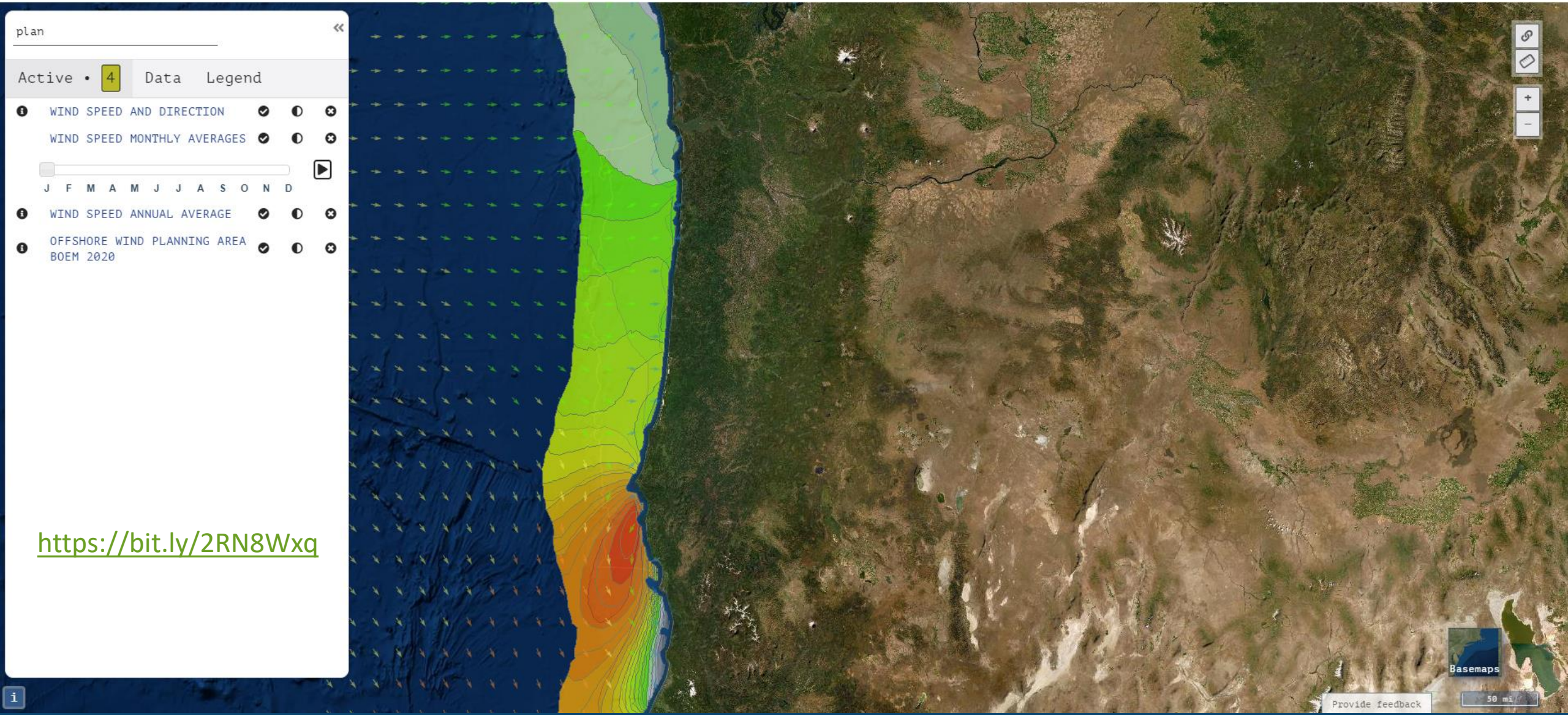

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Data Layers: Fish

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Additional Information on Fish Species from NOAA Southwest Fisheries Science Center (Coming Soon)
Average, Monthly Predictions for Shortfin Mako Sharks (Isurus oxyrinchus), California Current System, 1998-2016
Average, Monthly Predictions for Common Thresher Sharks (Alopias vulpinus), California Current System, 1998-2016
Average, Monthly Predictions for Swordfish (Xiphias gladius), California Current System, 1998-2016
Average, Quarterly Predictions for Albacore (Thunnus alalunga), California Current System, 1995-2018
Average, Quarterly Predictions for Sardine (Sardinops sagax), California Current System, 1995-2018
Average, Quarterly Predictions for Clubhook Squid (Onychoteuthis borealijaponica), California Current System, 1995-2018
Average, Quarterly Predictions for Anchovy (Engraulis mordax), California Current System, 1995-2018

Data Layers: Seabirds

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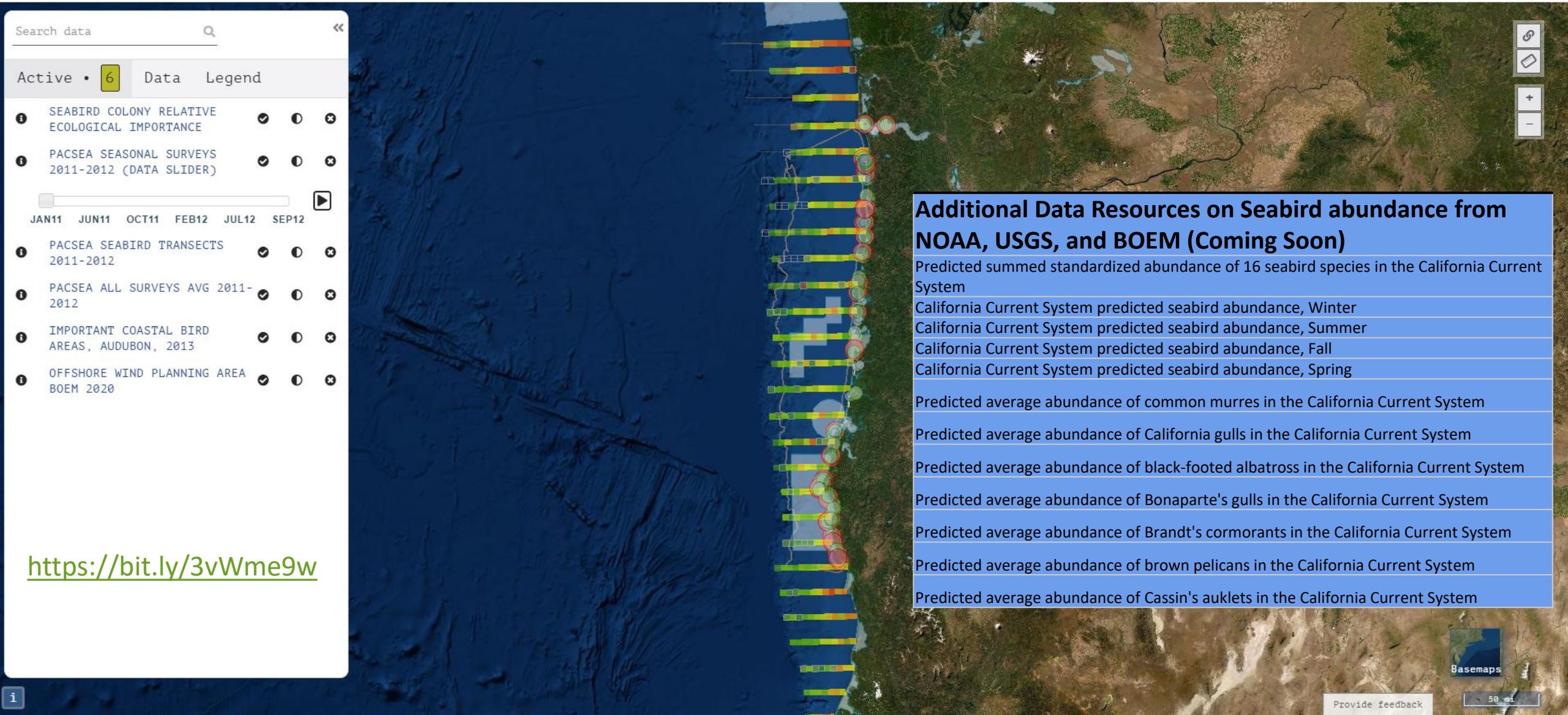

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Additional Data Resources on Seabird abundance from NOAA, USGS, and BOEM (Coming Soon)
Predicted summed standardized abundance of 16 seabird species in the California Current System
California Current System predicted seabird abundance, Winter
California Current System predicted seabird abundance, Summer
California Current System predicted seabird abundance, Fall
California Current System predicted seabird abundance, Spring
Predicted average abundance of common murres in the California Current System
Predicted average abundance of California gulls in the California Current System
Predicted average abundance of black-footed albatross in the California Current System
Predicted average abundance of Bonaparte's gulls in the California Current System
Predicted average abundance of Brandt's cormorants in the California Current System
Predicted average abundance of brown pelicans in the California Current System
Predicted average abundance of Cassin's auklets in the California Current System

Data Layers: Marine Mammals

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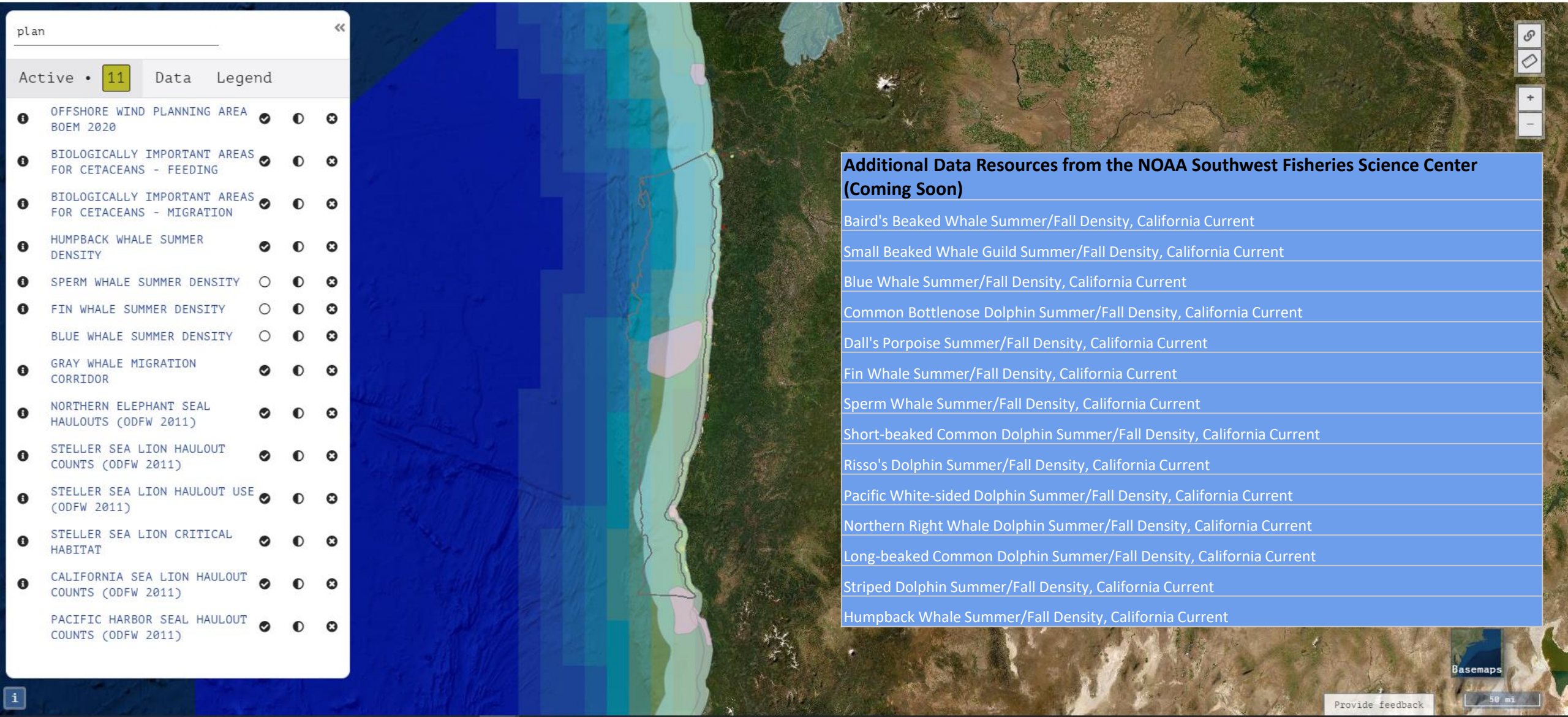

Additional Data Resources from the NOAA Southwest Fisheries Science Center (Coming Soon)
Baird's Beaked Whale Summer/Fall Density, California Current
Small Beaked Whale Guild Summer/Fall Density, California Current
Blue Whale Summer/Fall Density, California Current
Common Bottlenose Dolphin Summer/Fall Density, California Current
Dall's Porpoise Summer/Fall Density, California Current
Fin Whale Summer/Fall Density, California Current
Sperm Whale Summer/Fall Density, California Current
Short-beaked Common Dolphin Summer/Fall Density, California Current
Risso's Dolphin Summer/Fall Density, California Current
Pacific White-sided Dolphin Summer/Fall Density, California Current
Northern Right Whale Dolphin Summer/Fall Density, California Current
Long-beaked Common Dolphin Summer/Fall Density, California Current
Striped Dolphin Summer/Fall Density, California Current
Humpback Whale Summer/Fall Density, California Current

Data Layers: Deep Sea Corals and Marine Plants

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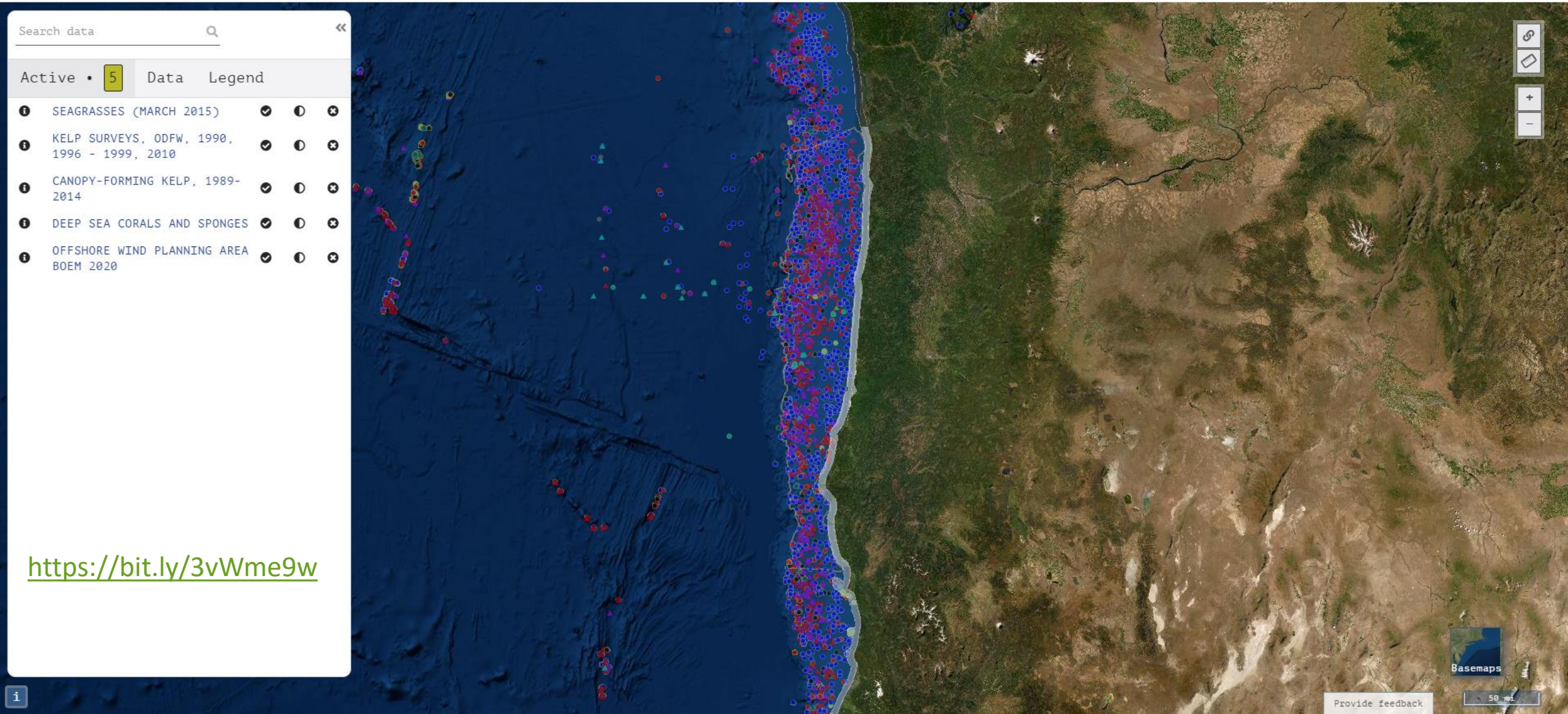


https://bit.ly/3vWme9w

Portal Development Next Steps

Data Catalog

- OROWindMap Data Library Page (for browsing the catalog)
- Data Updates for:
  - Marine Birds Predictive Models (NOAA, USGS, BOEM)
  - Marine Mammals Predictive Models (NOAA)
  - West Coast Fisheries Closures (CSUN)
  - Planning Analysis layer (CSUN)

Software Upgrades

- Area Calculation Tool
- Individual Logins
- User Groups

Got Data?

What?

Ocean Characteristics

Biological, Physical, Human Use

Where?

Oregon, West Coast

Geospatial

Ideal, but not required

Geospatial Service

Metadata

How was it made?

Where does it live?

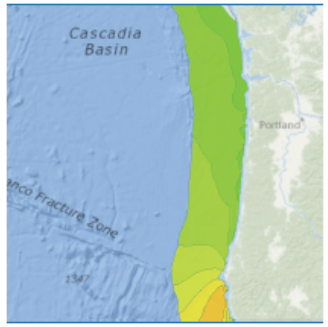
www.boem.gov/OROWindMapInfo

Data Sharing for Oregon Offshore Wind Planning

The Bureau of Ocean Energy Management (BOEM) and the State of Oregon (the State), led by the Oregon Department of Land Conservation and Development (DLCD), are committed to offshore wind energy planning with a data gathering process to inform potential leasing decisions. In partnership with the BOEM Oregon Intergovernmental Renewable Energy Task Force (Task Force), BOEM and DLCD developed the *Data Gathering and Engagement Plan for Offshore Wind Energy in Oregon*, which outlines the activities BOEM and the State will conduct to gather information to inform the Task Force and offshore wind energy leasing decisions. The plan can be found at: www.boem.gov/Oregon.

The DLCD, in partnership with BOEM, is developing a data catalog and map viewer within the West Coast Ocean Data Portal to provide public access to the best available data throughout the planning process. The Oregon Offshore Wind Mapping Tool (OROWindMap), which can be found at https://offshorewind.westcoastoceans.org, has been developed to compile the collected data and information. This powerful planning tool accesses relevant datasets and provides visualization capabilities to inform the planning process for offshore wind energy leasing in federal waters offshore Oregon. The inclusion of new data sets will help inform the public, the State, and the Bureau of Ocean Energy Management during the planning process. Below are the criteria for inclusion of new data sets in OROWindMap.

- Data sets depict coastal and ocean characteristics (e.g., biological, physical) or human uses that are relevant to planning for offshore wind energy development in federal waters offshore Oregon.
- Data sets include the State (and its Territorial Sea) or federal waters offshore Oregon; however, data that encompasses the entire West Coast are ideal.
- Data sets are geospatial, ideally in a GIS format, but may be in a tabular format with coordinates.
- Data sets include standards-compliant metadata. The basic information required for metadata is outlined below, and more information can be found at http://wcodp.readthedocs.io/.



If there is an information product that is relevant to this process but is not geospatial or tabular, please contact the West Coast Ocean Data Portal (WCODP) Administrator at portal.westcoastoceans@sccwrp.org.

Metadata help document the details of data sets, including who created it, when it was created, and why it was created. All data in OROWindMap have, at a minimum, the following metadata associated with them:

- Title
- Abstract / Description
- Use Limitations / Constraints
- Bounding Box Coordinates in Latitude/Longitude (decimal degrees)
- Keywords
- Date Published
- Contacts
  - Originator
  - Publisher
  - Distributor
- URLs for data download, web services, kml, web application, documentation

If the metadata meet the requirements of the Federal Geographic Data Committee (FGDC) endorsed standards (https://www.fgdc.gov/metadata/geospatial-metadata-standards), then it will meet the WCODP requirements.

Data Catalog Review Effort

The State and BOEM are seeking:

Available data and information from research organizations, governmental bodies, environmental groups, OSW industry, and interested and affected parties.

A Data Review Working Group will be convened to gather and review data that identifies existing environmental information and uses to inform OSW planning in Oregon.

Existing archives of data from TSP amendments and other ocean planning related processes will form the foundation of information to build on.

The purpose will be to identify new records for inclusion in the Data Catalog and OROWindMap Tool, and help to provide contextual information with existing information products.

Virtual meetings during summer (July, August)

Contact: Andy Lanier

Anticipated Next Steps

Continue data gathering and engagement throughout BOEM's authorization process

Data Review Working Group

Fall 2021: BOEM Oregon Task Force Meeting

- Present the results of the 12-month effort
- Seek input from the Task Force

Winter 2021-2022: BOEM Oregon Task Force Meeting

- Review draft Call Area(s) with the Task Force

Following the Task Force Meetings

- BOEM to publish Call for Information and Nominations (Call) in the *Federal Register*
  - Describes geographically distinct areas (Call Area(s))
  - Requests comments and information relevant to BOEM's review to identify Wind Energy Areas which are subject to environmental review prior to leasing
  - Invites submission of nominations of interest for commercial wind leases

Discussion and Next Steps

Explore OROWindMap at offshorewind.westcoastoceans.org

Share relevant data (see www.boem.gov/OROWindMapInfo)

Stay informed and connected about Oregon offshore wind activities and any scheduled Task Force meetings

- Visit the BOEM Oregon webpage at **www.boem.gov/Oregon**
  - Standing meetings open to the public
  - Sign up for announcements at **www.boem.gov/OregonUpdates**

Let Whitney Hauer (whitney.hauer@boem.gov) and Andy Lanier (andy.lanier@state.or.us) know if there are other organizations, groups, or members of the public that BOEM and DLCD should engage with for offshore wind energy planning

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Public Input and Q&A

Facilitated by Jamie Damon, Kearns & West