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# Using Available Data to Identify Offshore Wind Energy Areas

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October 3, 2019

# Stakeholders Need

- Transparent and objective analysis to identify siting locations
- Research to identify key data gaps
- Ability to update models with new data to inform managers
- Explicit incorporation and presentation of uncertainty



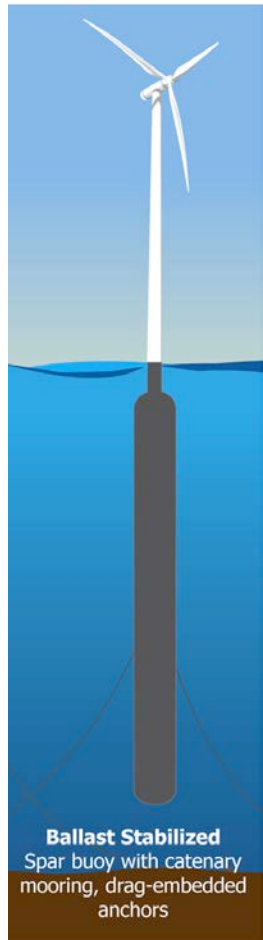
# Goal

To promote transparent and **objective decision-making** around the selection of locations and types of renewable energy development.



# Background

There are ~700 data layers to inform energy siting that need to be synthesized





## California Offshore Wind Energy Gateway

*In support of the Intergovernmental Renewable Energy Task Force*

Search by keyword or location 

powered by DATA  BASIN 

Get Started

Explore

Create

### What is the California Offshore Wind Energy Gateway?

What can I do?

How do I start exploring?

The Offshore Renewable Wind Energy Gateway assembles geospatial information on ocean wind resources, ecological and natural resources, ocean commercial and recreational uses and community values. This information will help identify areas off of California that are potentially suitable for wind energy generation.

[read more](#)



Map

West Coast USA Federal and State Marine Protected Areas



Map

California Offshore Wind Resources



Map

Central California Offshore Use Zones



Map

Central California Offshore Geology and Wind Technology Depth Zones



Map

Central California Offshore Biological Resources



Dataset

Seabird Spring Survey Compilation: Observations from various surveys ...



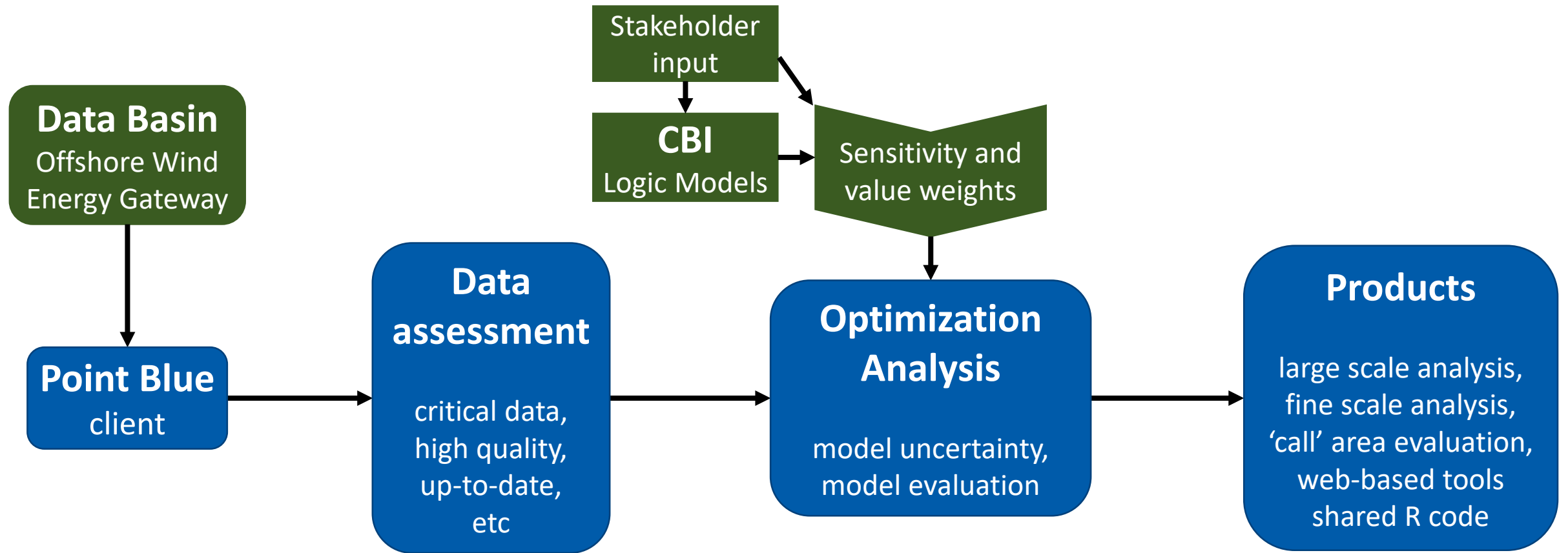
California Energy Commission

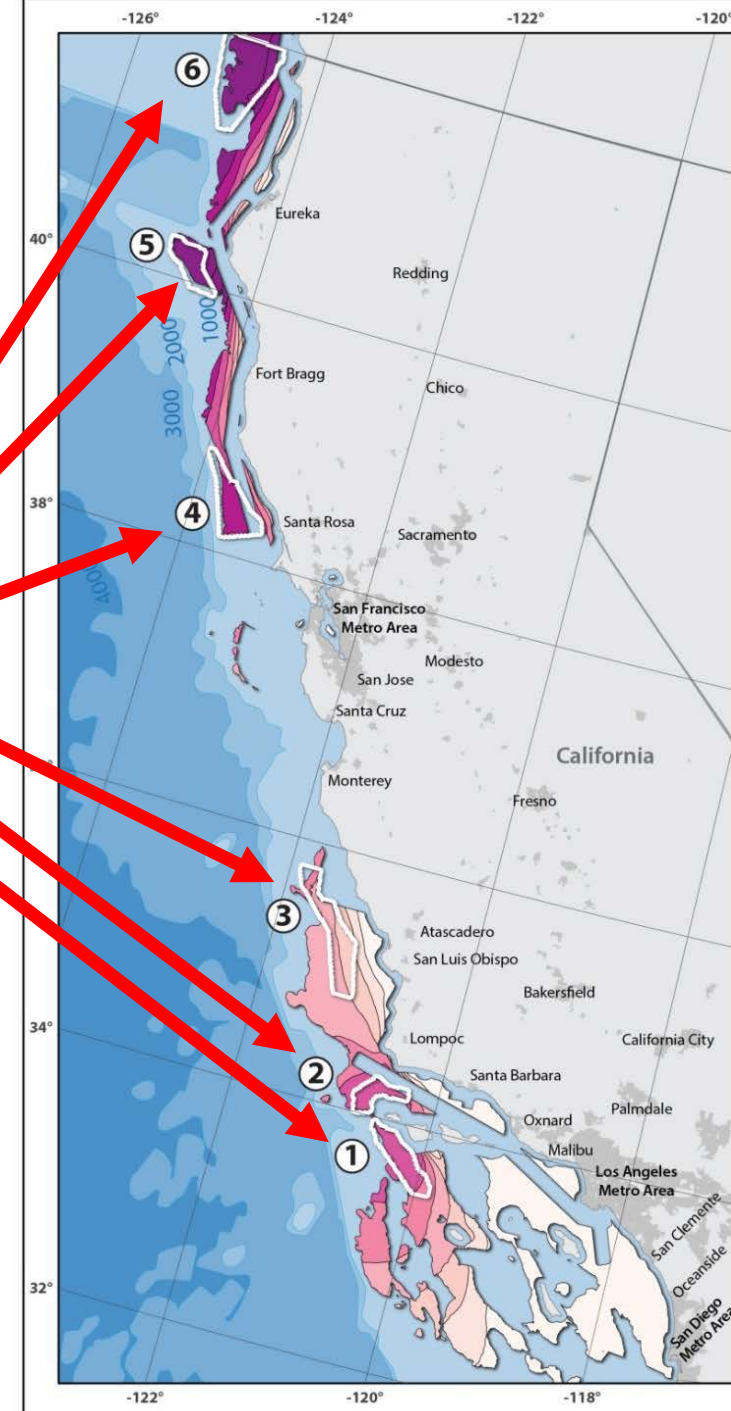
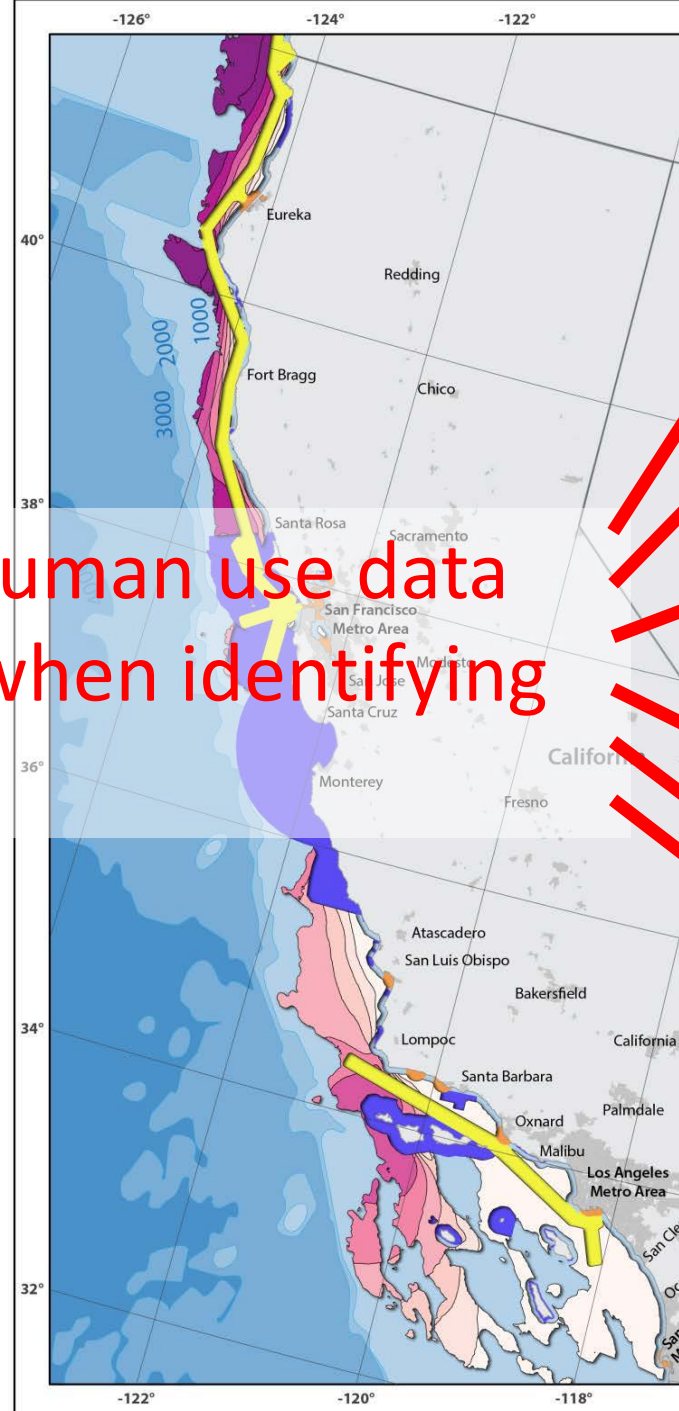


# Objectives

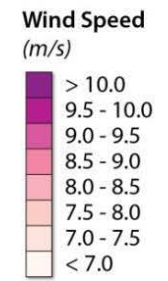
1. **Identify suitable locations** for marine renewable energy siting using existing body of information compiled in ‘Data Basin’,
2. Provide the foundation for lease selection by **identifying data priorities and gaps, and evaluating conflicts and trade-offs.**
3. **Examine offshore wind “call” areas** identified by BOEM and additional candidate areas for potential development.
4. **Disseminate results** of data quality and spatial optimization analysis to agency managers, industry, and other stakeholders.

# Approach

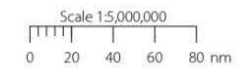




# Offshore Wind Resource Speed (m/s) at 100 meters



This map was developed with funding and support from the Bureau of Ocean Energy Management. The map shows annual average coastal offshore wind speeds where ocean depth is 1,000 meters or less, and distance from shore is 3 nautical miles or more. The offshore wind resource data were originally estimated by AWS Truepower at a 100m hub-height. Wind speeds less than 7 m/s are not included in estimates of the technical resource.



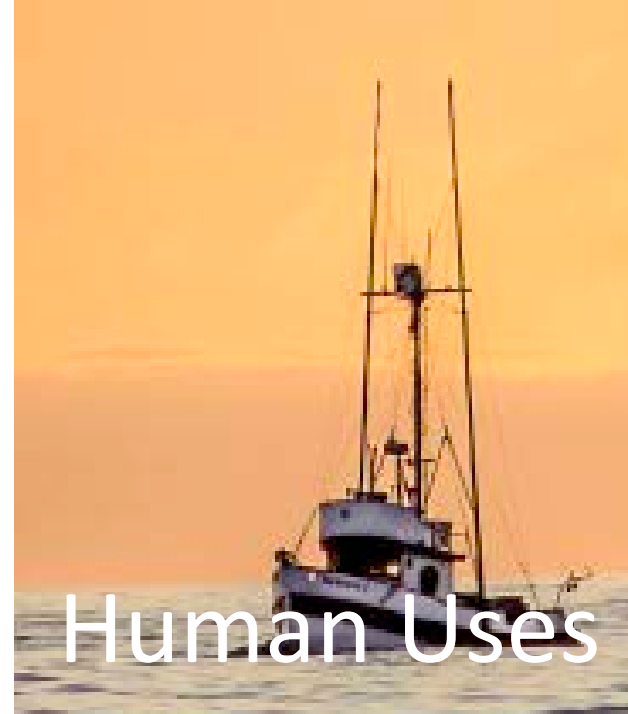
Billy J. Roberts | December 7, 2015





# What is Critical Data?

Define “key science-based datasets” in the context of the project.



Human Uses



Cultural Res.



Deep Sea  
Habitats



Fish



Seabirds



Whales



# Deliverables

## Large scale analysis

Maps identifying locations along the west coast that maximize energy production and minimize potential environmental impacts and conflicts with human use.



# Deliverables

## Fine scale analysis and 'Call' area evaluation

Maps showing data availability and report evaluating the data types, quality, resolution and extent of time series available in main identified sites from large scale analysis and 'call' areas identified by BOEM.





# Outcome

**Recommendations on offshore wind energy siting** guided by and based on a comprehensive and transparent analysis of data included in the California Offshore Wind Energy Gateway.

Analysis includes: 1) **quantification of impacts** to habitats, species and ocean uses, 2) **accounts for offshore energy potential** in a statistically rigorous framework derived from the perspectives of multiple stakeholders, 3) **provides explicit measures of uncertainty** and risks through transparent analysis.



Point Blue  
Conservation  
Science

# Thank You



OCEAN  
PROTECTION  
COUNCIL

GORDON AND BETTY  
**MOORE**  
FOUNDATION

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