



Ocean Planning to Inform Wind Energy



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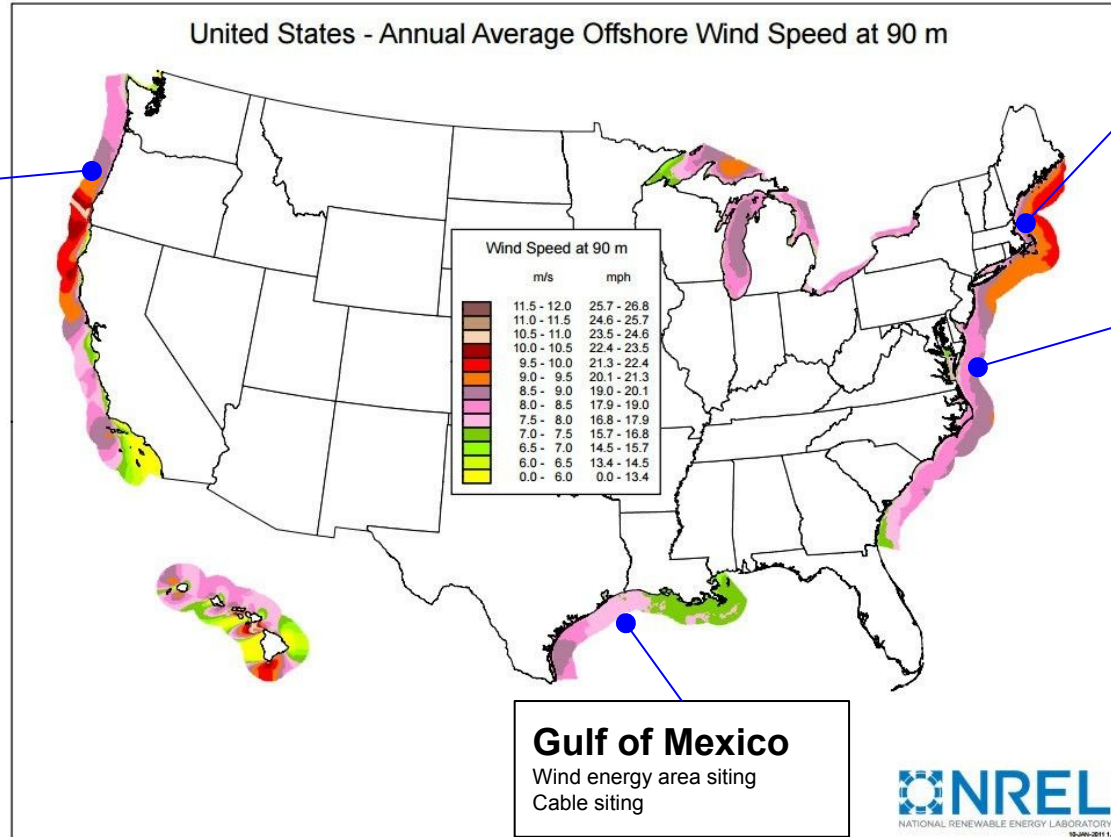
Agenda Item C.4.a
Supplemental NOAA-BOEM Presentation 1
September 2022



BOEM NOAA Partnership on Ocean Planning

Oregon

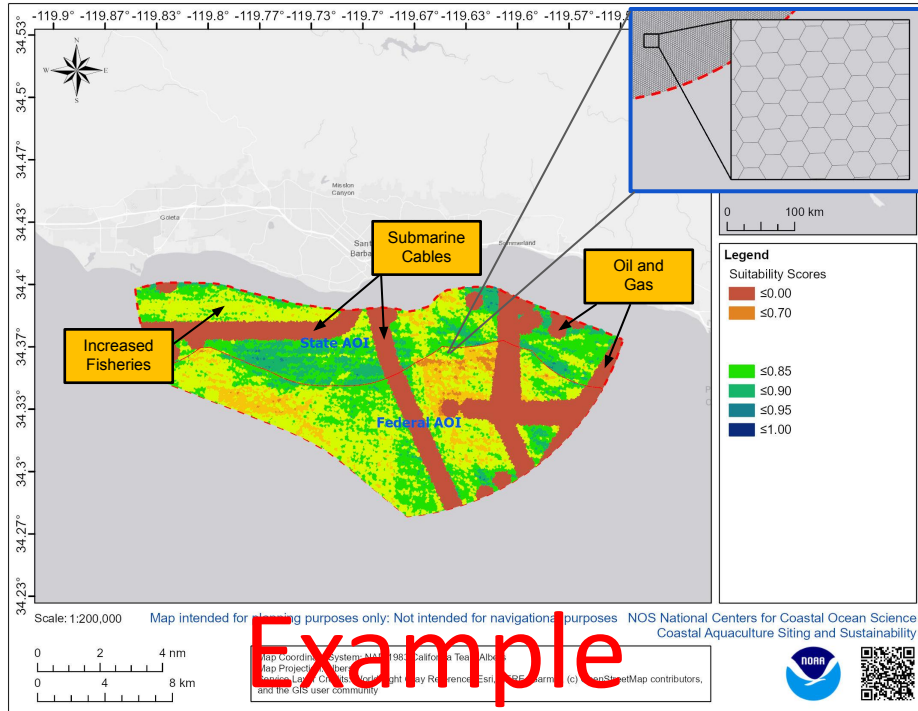
Wind energy area siting
Cable siting



BOEM
BUREAU OF OCEAN ENERGY MANAGEMENT

Suitability modeling

Identifies ocean areas with the lowest potential for use conflict and environmental impact



A **suitability model** is a **model** that weights locations relative to each other based on given criteria. A **common scale** allows for meaningful values to be produced when the criteria are combined. **Data** must be **transformed** into a common scale so the criteria can be compared. We are using a 0 to 1 scale.



Why Spatial Suitability Modeling?

Analyzes the “whole ecosystem”

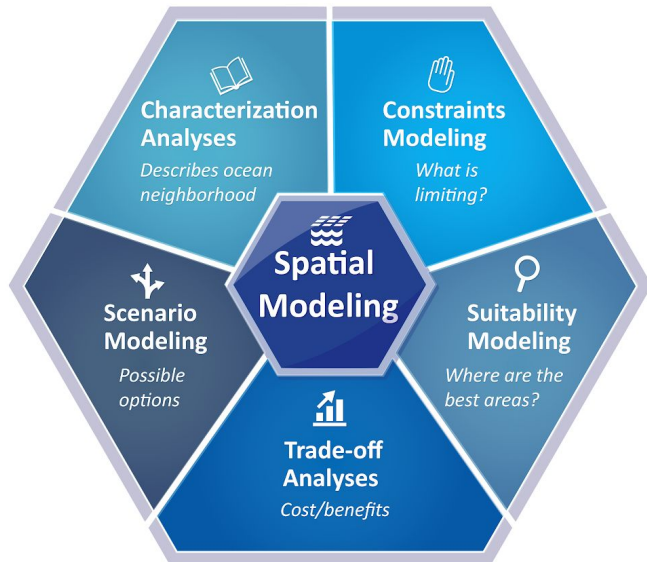
Identifies hotspots of conflict and opportunity

Requires set rules (weights) and methods

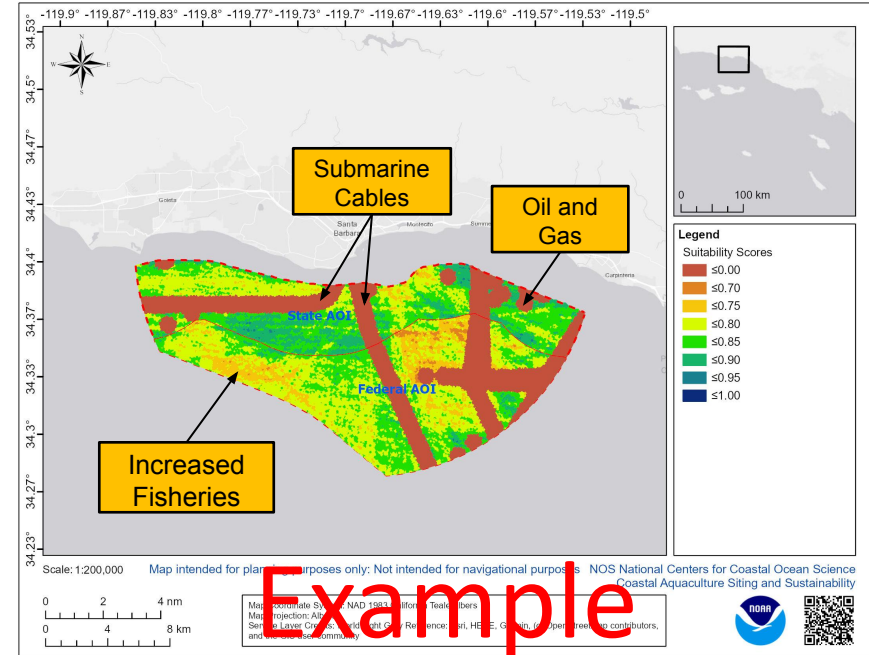
Provides defensible and transparent methods

Allows for scenario planning

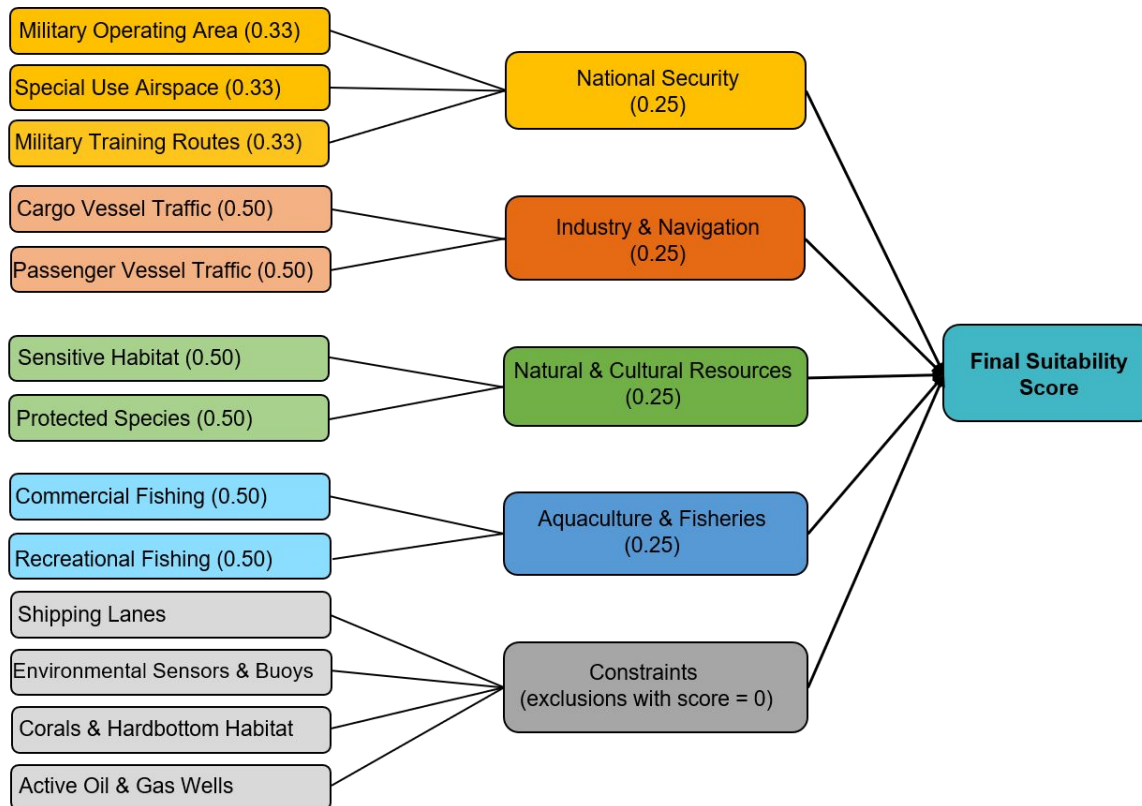
Supports comprehensive environmental review



A **spatial suitability model** weights locations relative to each other based on a given criteria.



Suitability Model Design



Examples of modeling rules

- Four submodels and constraints model
- Equal weights for all data and submodels
- Geometric mean used for calculating scores

Oregon geodatabase



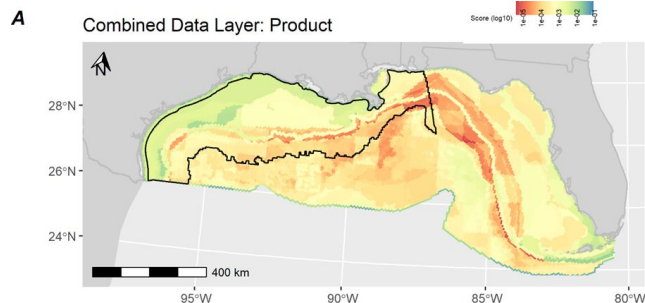
Data Category	Number of Layers
National Security	11
Natural & Cultural Resources	181
Fishing & Aquaculture	87
Industries	51
Logistics	7
Boundaries	45
Metocean	44
Economics	6
Total	432

Combined data layers

Single layer by topic (e.g., whales/sea turtles, birds, habitat, etc.)

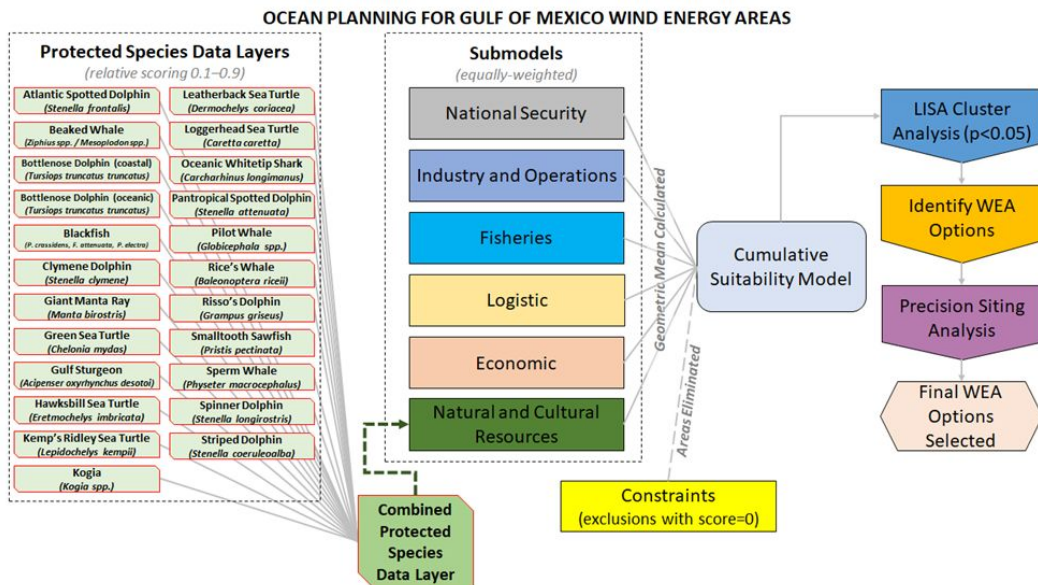
Allows higher weighting of most critical species/habitats

Provides a holistic view across entire study area/region



Status	Trend	Score	Converted scores for model
Endangered	declining, small population or both	9	0.10
Endangered	stable or unknown	8	0.20
Endangered	increasing	7	0.30
Threatened	declining	6	0.40
Threatened	stable or unknown	5	0.50
Threatened	increasing	4	0.60
Strategic MMPA Stock	declining or unknown	3	0.70
MMPA Stock	small population	2	0.80
MMPA Stock	large population	1	0.90

*Small population equates to populations of 500 individuals or less (Franklin 1980).



Next steps

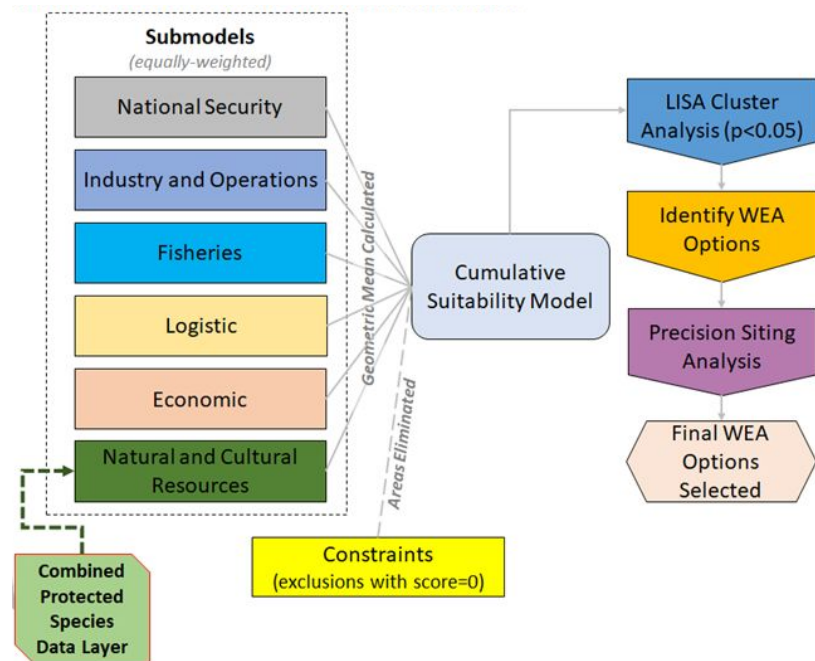
Working on data development with BOEM

Working on combined data layers

Will be running models to understand the call areas

Working with BOEM on stakeholder engagement

Will produce a modeling report



Thank you!
Questions/discussion

