Alaska Aquaculture Opportunity Area Draft Options Notice of Availability

Alicia Bishop, *NOAA Fisheries Alaska Regional Aquaculture Coordinator*
Chris Schillaci, *NOAA National Centers for Coastal Ocean Science*

Alaska NOA Listening Sessions 2025

Illustrations by Juliana Cornett

Today's Presenters

- **Alicia Bishop:** NOAA Fisheries Alaska Regional Aquaculture Coordinator

- **Chris Schillaci:** NOS National Centers for Coastal Ocean Science, Marine Ecologist, Coastal Aquaculture Siting and Sustainability

Ground Rules

This Meeting is:

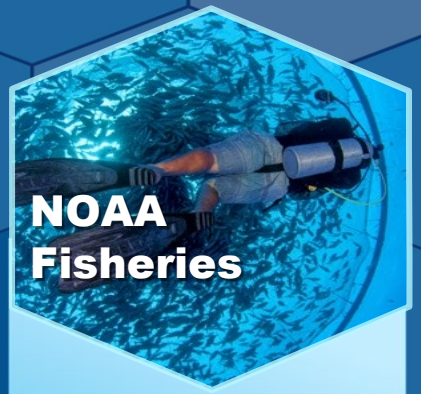
- An update on the Alaska Aquaculture Opportunity Area (AOA) process
- A chance to share information on the preliminary results of the marine spatial planning study and Draft AOA Options
- To accept public comments on the requested information in the Notice of Availability (NOA)

This Meeting is Not:

- Question and Answer session
- About any specific permit application

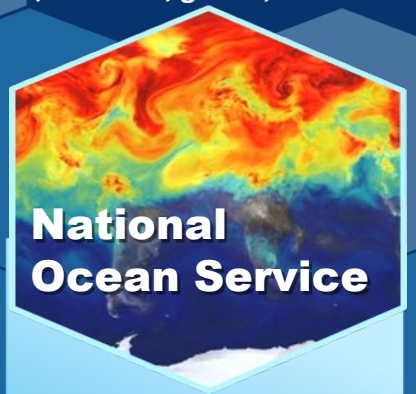
NOAA Aquaculture Program

These organizations partner across NOAA to advance sustainable aquaculture in the United States through policy, outreach, science, research, grants, and extension.



NOAA Fisheries

- Office of Aquaculture
- Regional Offices
- Science Centers



National Ocean Service

- National Centers for Coastal Ocean Science

Oceanic & Atmospheric Research

- National Sea Grant College Program

Interagency Team

NOAA Fisheries

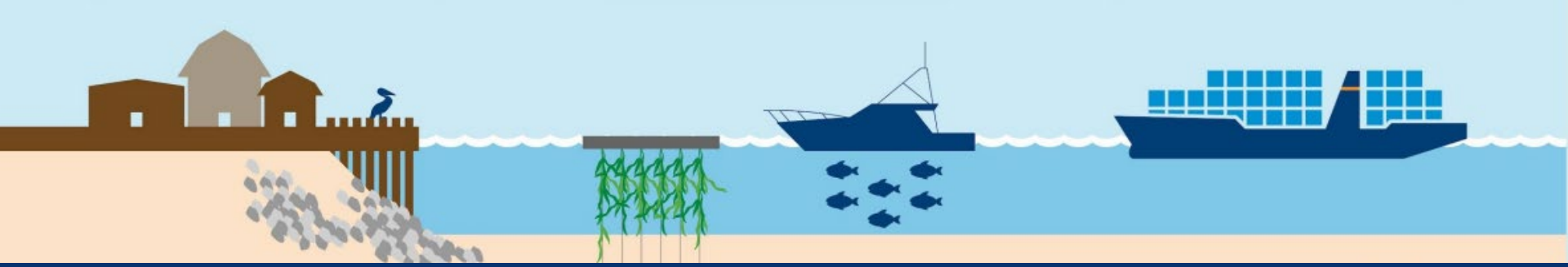
- Alicia Bishop – Regional Aquaculture Coordinator
- Jamie Currie – Communication Specialist
- Emily Reynolds – Alaska Sea Grant Fellow

National Centers for Coastal Ocean Science (NCCOS)

- Chris Schillaci – Marine Spatial Ecology Division
- Drew Resnick – Spatial Analyst

Interagency Working Group

- Alaska Department of Fish and Game
- Alaska Department of Natural Resources
- Alaska Department of Environmental Conservation
- US Army Corps of Engineers

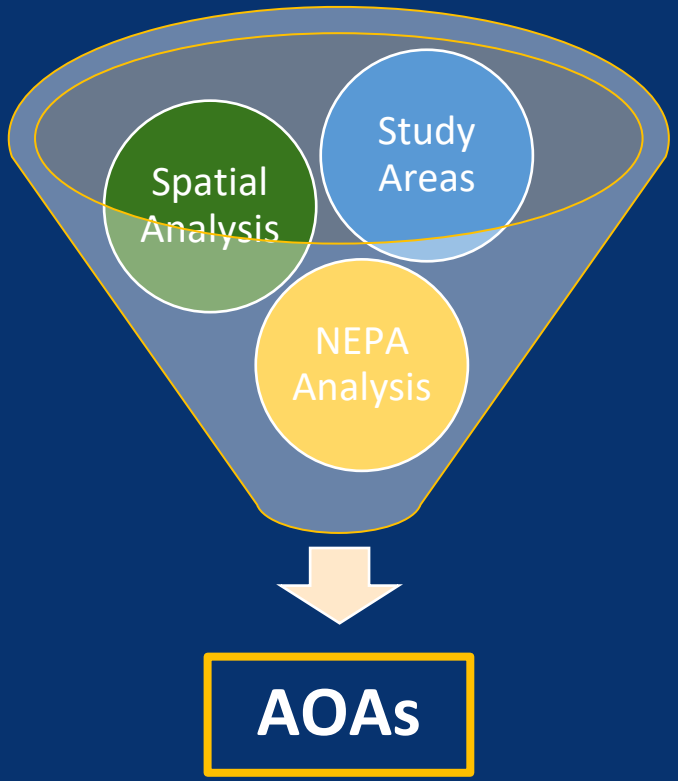


- AOA: defined location that has been evaluated to determine its potential suitability for commercial aquaculture.
- In Alaska, it may be suitable for shellfish and seaweed aquaculture
- Goal: **environmental, social, and economic suitability**
- Identified using **scientific analysis and public engagement**
  - After completion of a **final programmatic environmental impact statement (PEIS) and issuance of a Record of Decision (ROD).**

Executive Order 13921

- ***Promoting American Seafood Competitiveness and Economic Growth*** (May 7, 2020)
  - Section 7:
    - Identify geographic areas suitable for commercial aquaculture (**AOAs**)
    - Complete a **PEIS** for each area
- Alaska was selected in 2023 as the third region in which AOAs may be identified in state waters

What is (and is not) an AOA?



<u>Goal:</u> Utilize a science and community-driven approach to ID areas suitable for multiple aquaculture projects

<u>NOT</u>:

- **Pre-permitting**
- **Excluding development outside AOAs**
- **Finfish farming (in AK)**

NOAA FISHERIES

Alaska AOA Roadmap

Planning & Analysis

Timeline: Up to 4 Years

AOA Public Engagement Timeline

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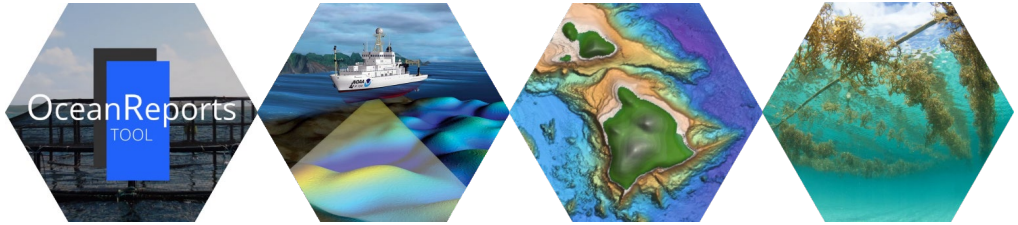
Learn More About the Notice of Availability

- Federal Register Notice published April 23rd
- Open for 30 days through **May 23rd**
- NOAA Fisheries website identifies how to provide electronic, written, and oral comments and links to the marine spatial planning study
- NCCOS WebMapper provides all of the layers and individual maps contained in the study as well as the locations of the Draft AOA Options

NOAA FISHERIES

Marine Spatial Planning Study

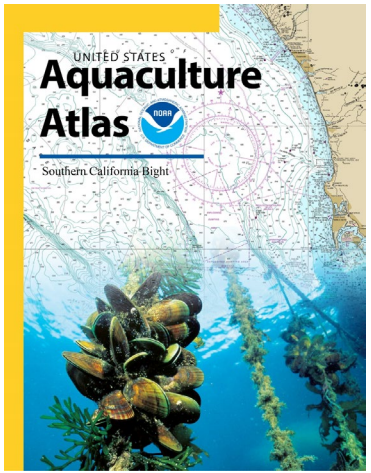


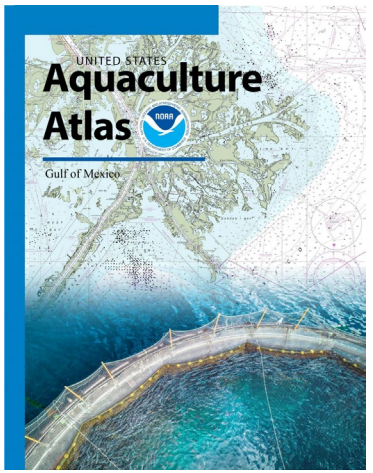
Preliminary Aquaculture Opportunity Analysis for the Gulf of Alaska

Christopher Schillaci[1], Drew Resnick[2], Isaac Keohane[2], Jasmine Papas[2], Breanna Xiong[2], and James A. Morris, Jr.[1]

[1] Marine Spatial Ecology Division, National Centers for Coastal Ocean Science, National Ocean Service, NOAA, 101 Pivers Island Rd., Beaufort, North Carolina 28516

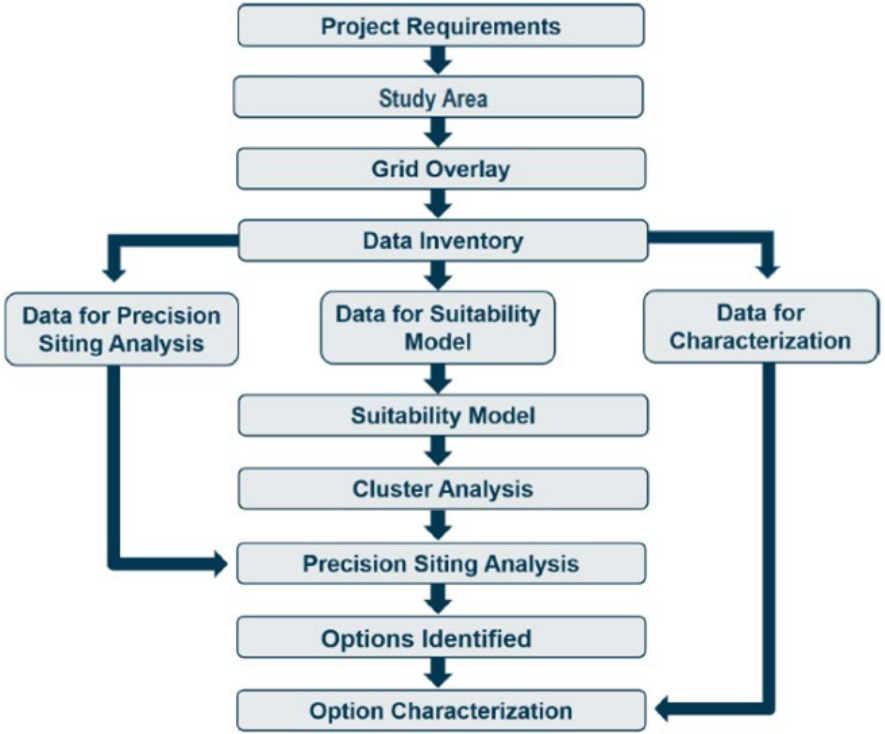
[2] CSS, Inc. under contract to the National Centers for Coastal Ocean Science, National Ocean Service, NOAA, 101 Pivers Island Rd., Beaufort, North Carolina 28516





NCCOS NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE

Workflow for the NCCOS AOA Spatial Suitability Analysis



Study Areas

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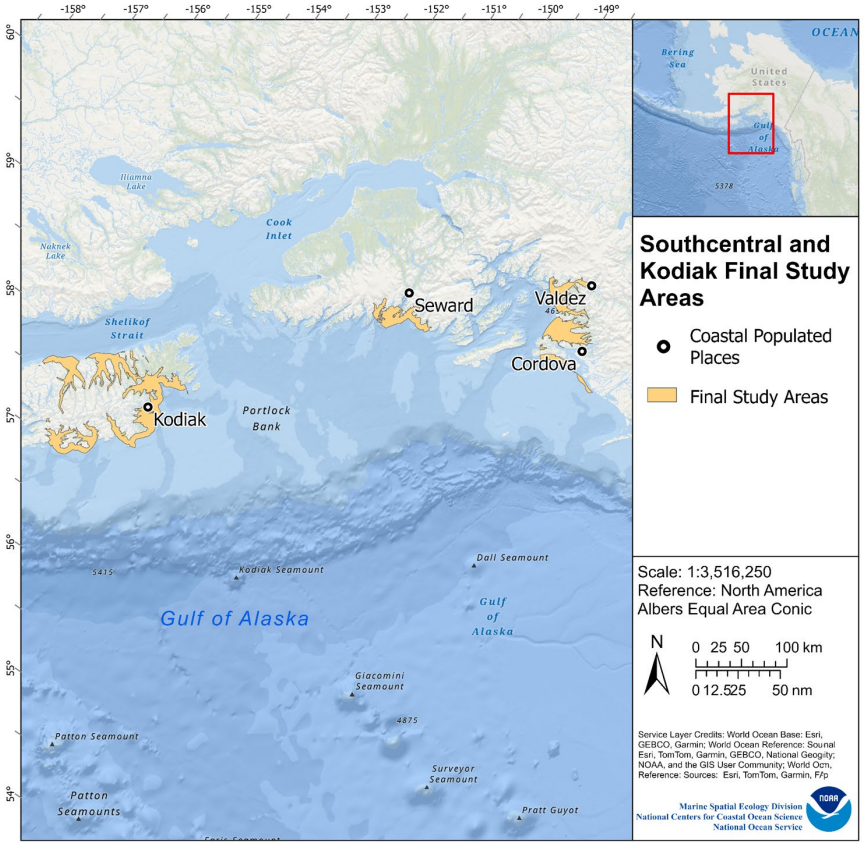

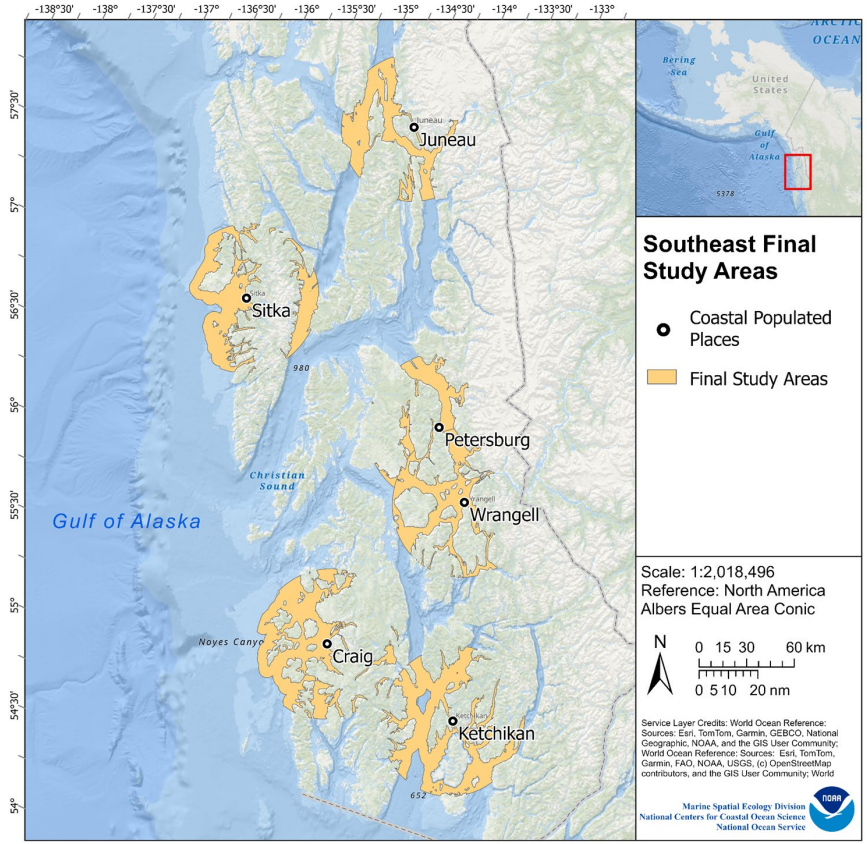

Constrained Study Areas

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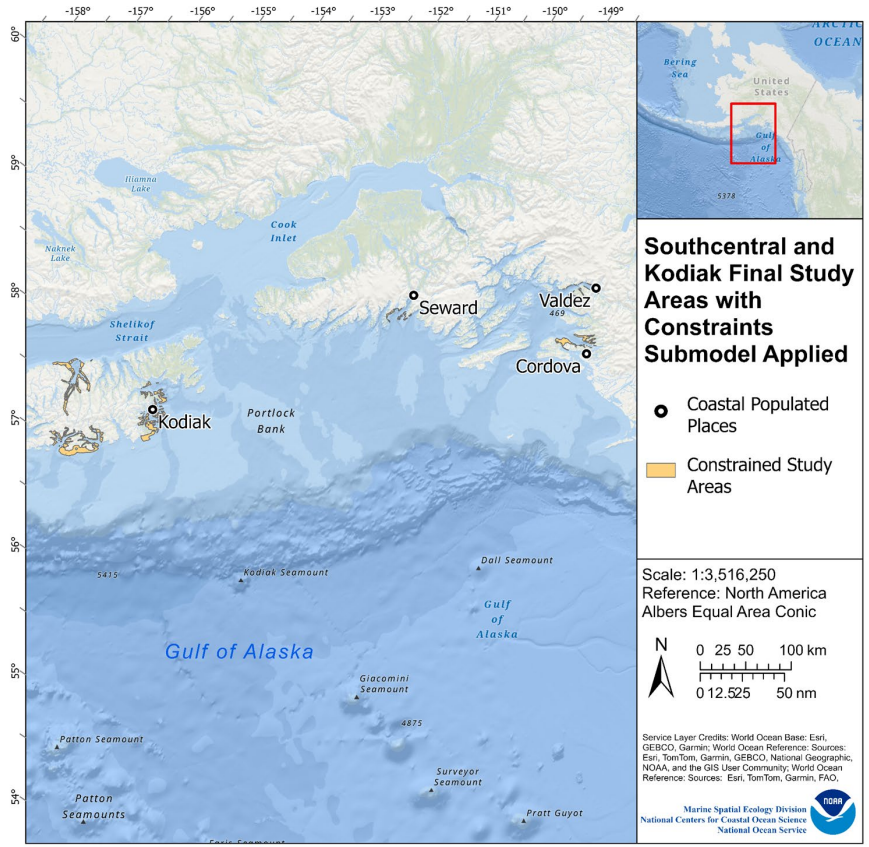

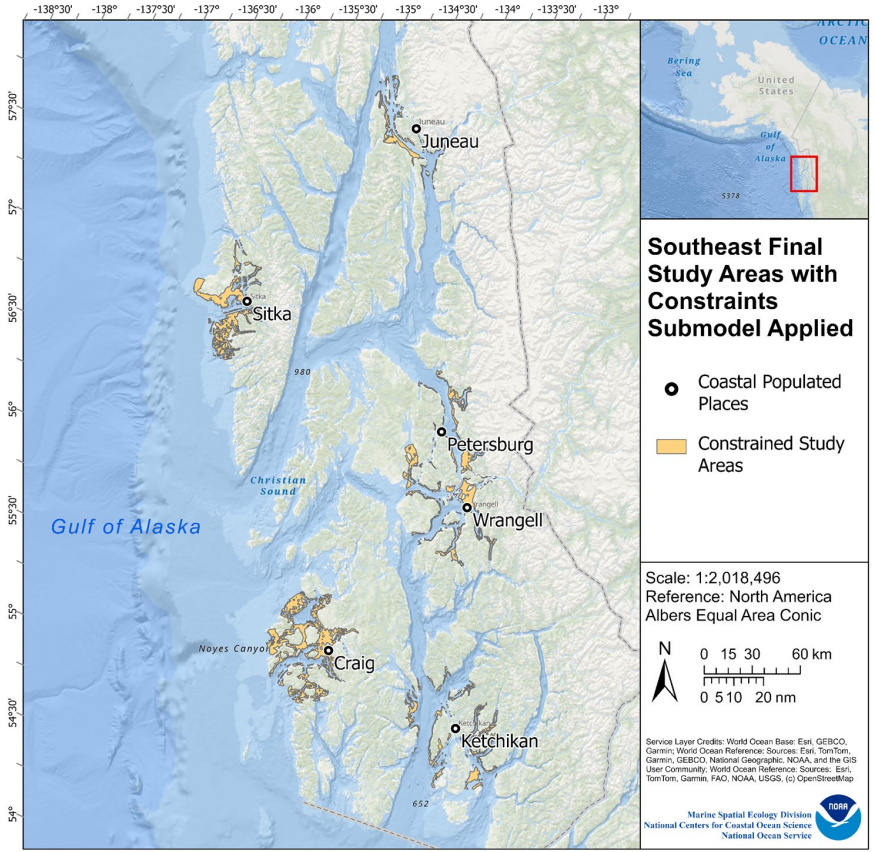

Spatial Study Planning Goals

The NOAA Fisheries and Alaska AOA Interagency Working Group selected planning goals to identify up to 4,000 acres of suitable subtidal draft AOA Options and up to 100 acres of suitable intertidal draft AOA Options **within each Study Area**. Additional criteria were established to meet the industry and engineering requirements of depth (i.e. no more than 200 ft.) and the travel distance from coastal population centers (i.e. no more than 25 nautical miles travel distance).

Draft AOA Option Criteria	Description
Draft AOA option size range	50- 2,000 acres
Acres per study area to identify	Subtidal- up to 4,000 ac Intertidal- 100 ac
Depth range	Subtidal- 4.5 m to 60 m (15ft to ~200 ft) Intertidal- MHHW to 1 m MLLW
Location	State waters $\leq$ 25nm transit distance from the study area population center

Suitability Modeling

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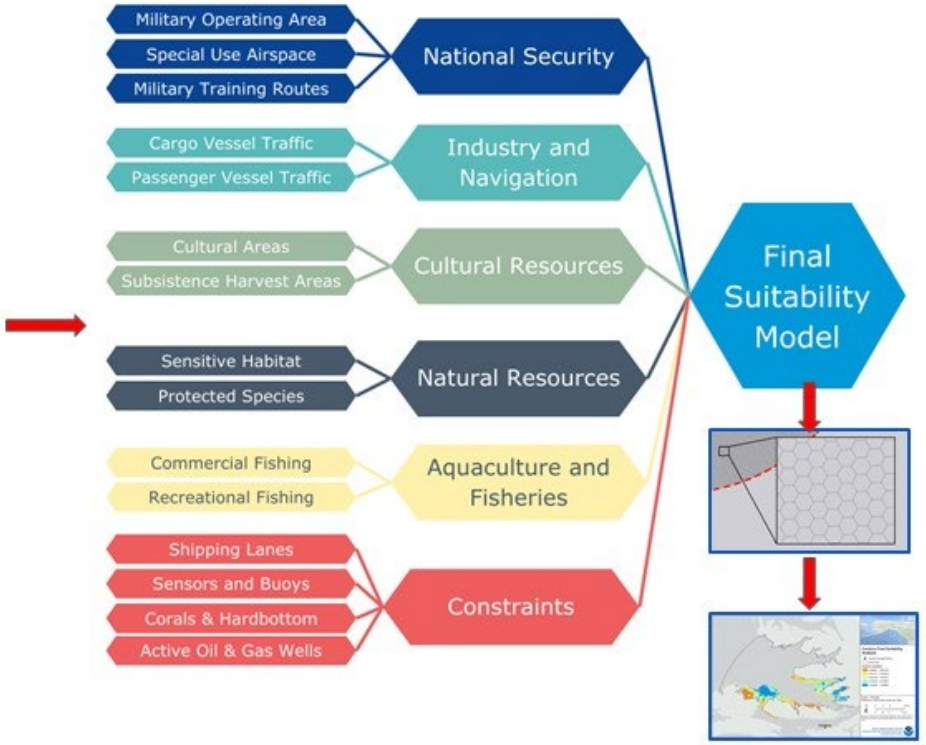
MAPPAK ALASKA GEOSPATIAL OFFICE

MarineCadastre.gov

BOEM Bureau of Ocean Energy Management

NOAA FISHERIES



Data Inventory

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MAPAK ALASKA GEOSPATIAL OFFICE

MarineCadastre.gov

BOEM Bureau of Ocean Energy Management

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Suitability Modeling Data Inventory	
Submodel	# of Layers Used in modeling
Constraints	45
Cultural Resources	11
Fisheries	7
Industry, Transportation, Navigation	16
National Security	2
Natural Resources	14
Total	95

Data Scoring and Processing

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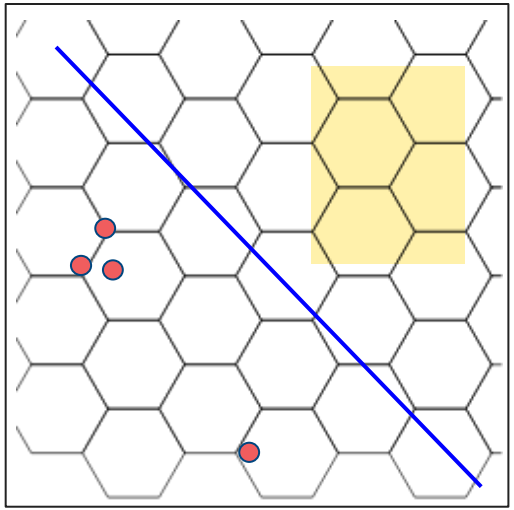
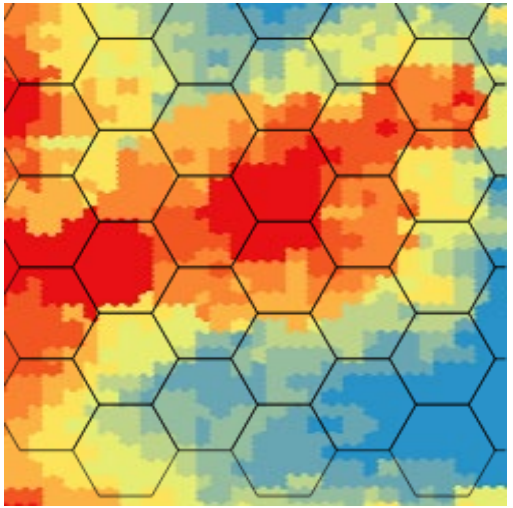
Categorical data



Presence/Absence Data
0 - 1 score is assigned to grid cell if that data layer is present inside of cell or overlaps the cell

Examples: Cables, Pipelines, Wrecks, Military restriction areas

Continuous data



Changes over space and time
Data are rescaled 0 - 1 using a z-membership function (ZMF)

Example: Vessel traffic

Example Juneau

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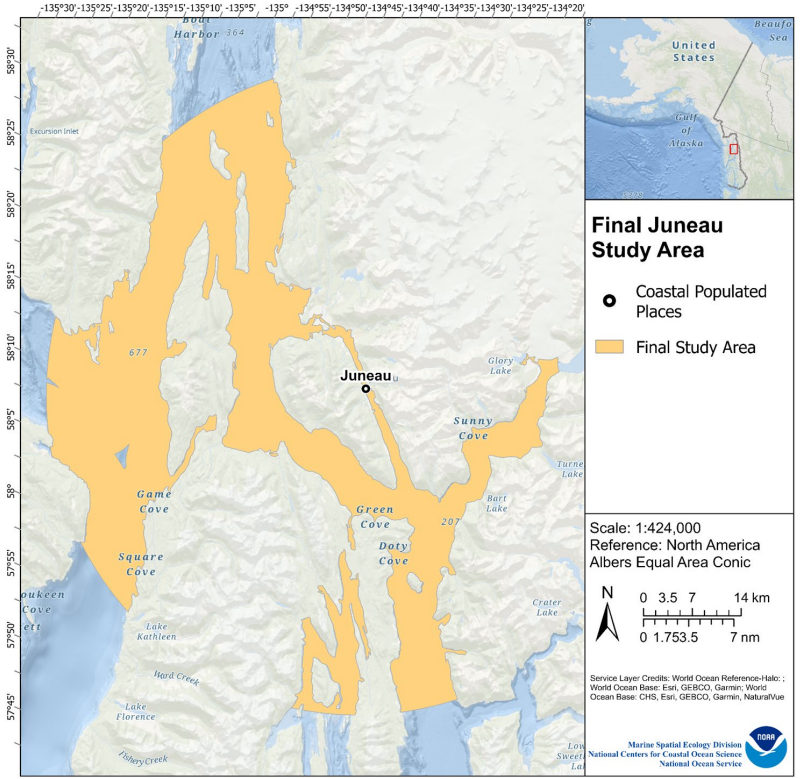
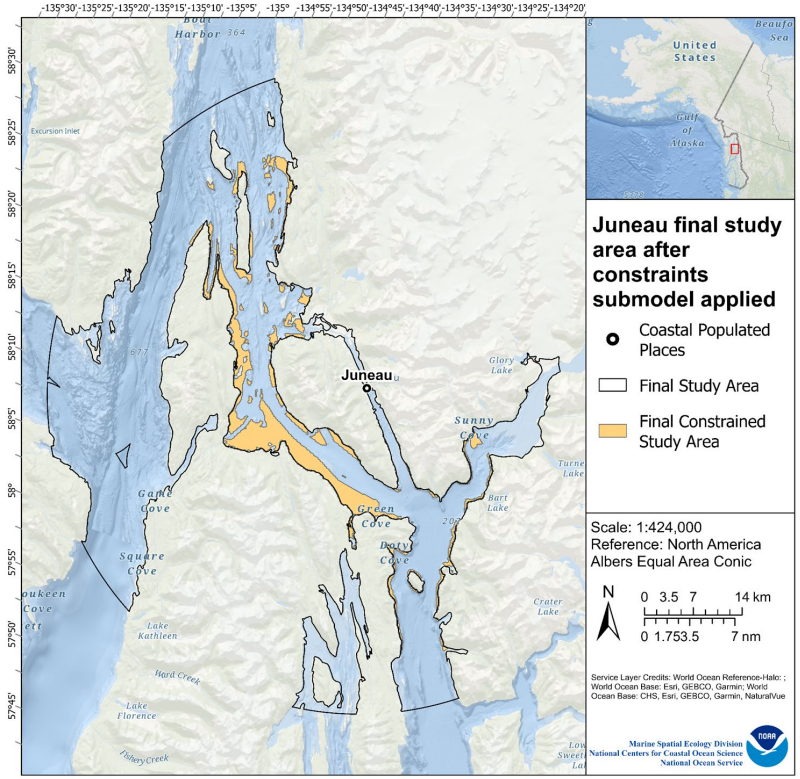
Study Area



Constrained Study Area



Example Juneau
Suitability Modeling

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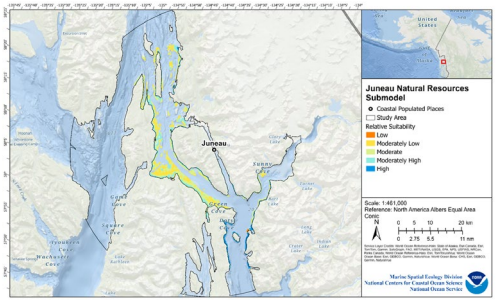

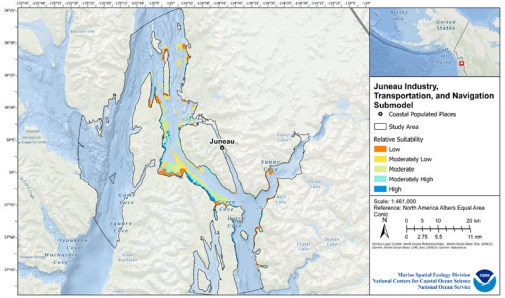

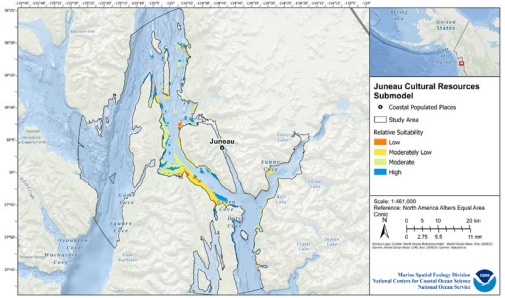

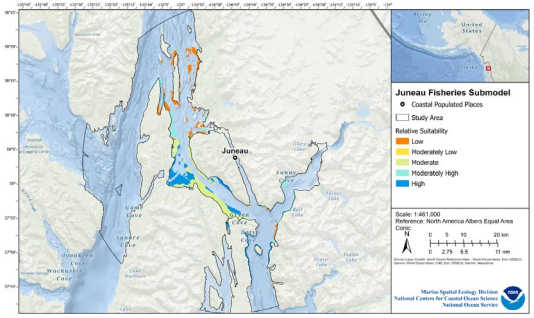

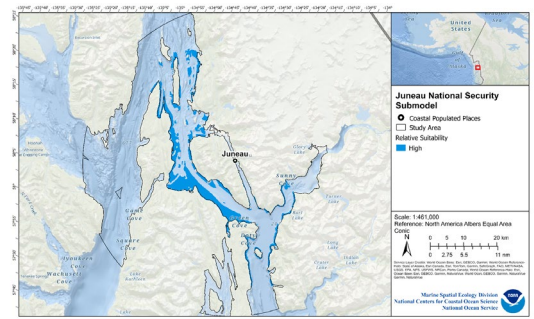

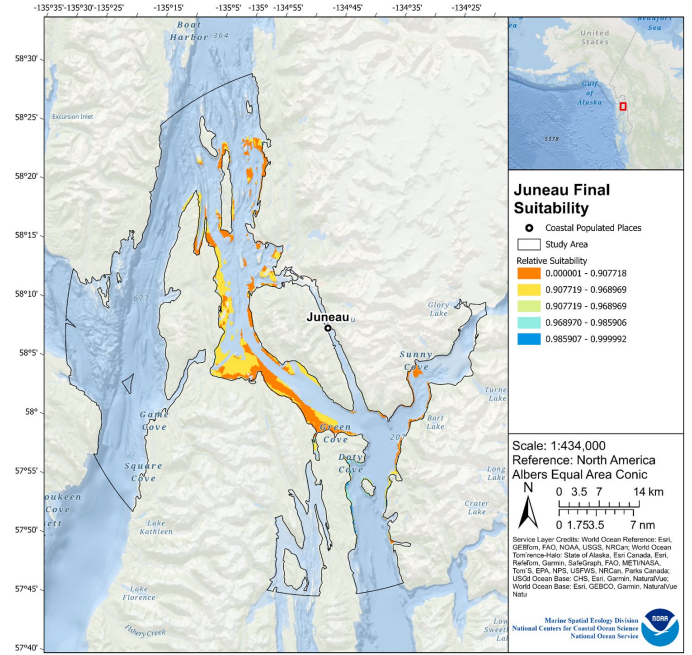

Example Juneau Cluster Analysis

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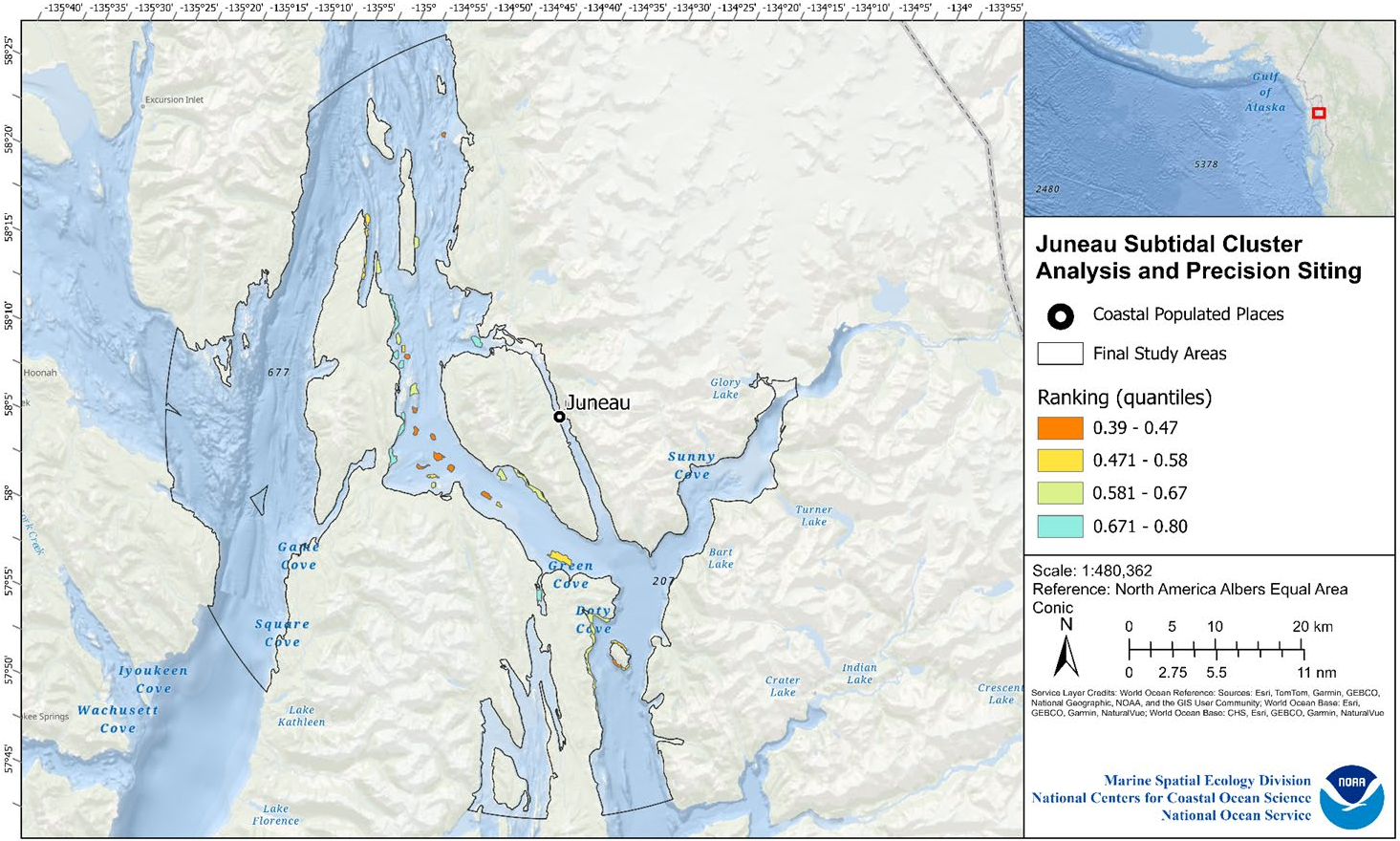

Example Juneau Precision Siting

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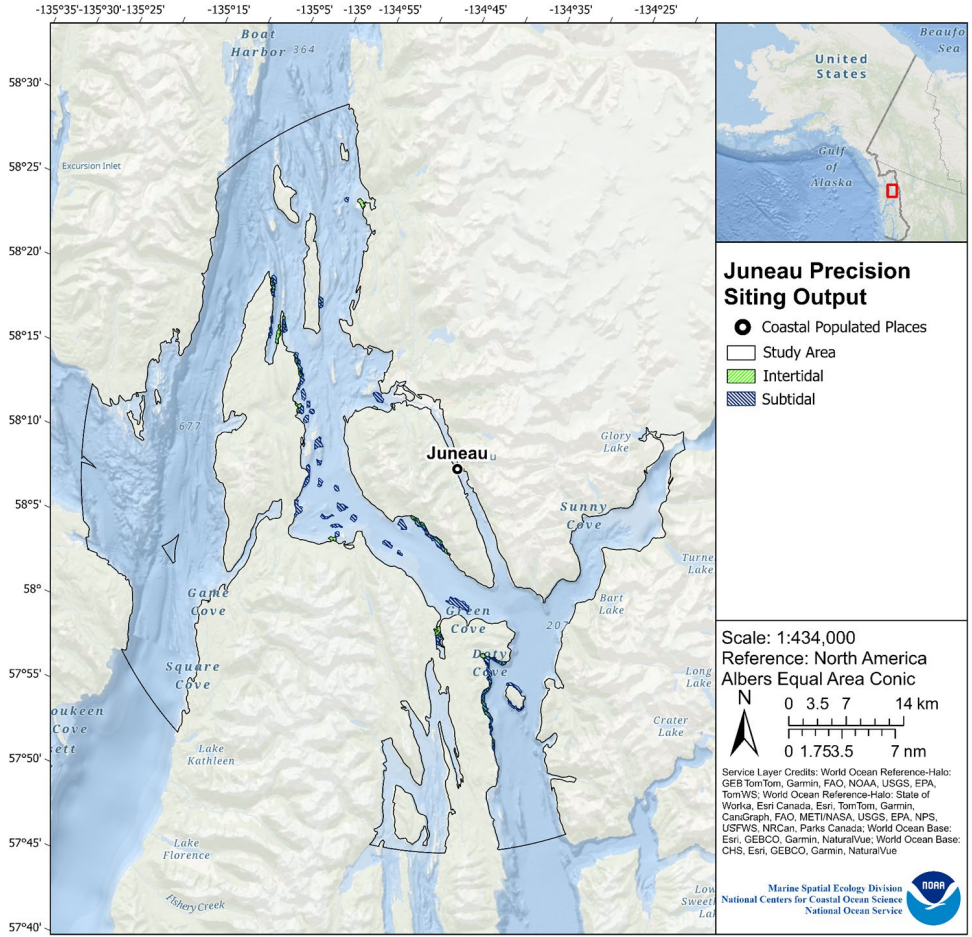

Within-Cluster and Among-Cluster

Precision Siting Model	
Data Layer	Rescale Function
Seafloor Relief (Slope)	Linear
Depth	Linear
Distance to coastal population center	Linear
Distance to shore	Linear

Example Juneau Draft AOA Options

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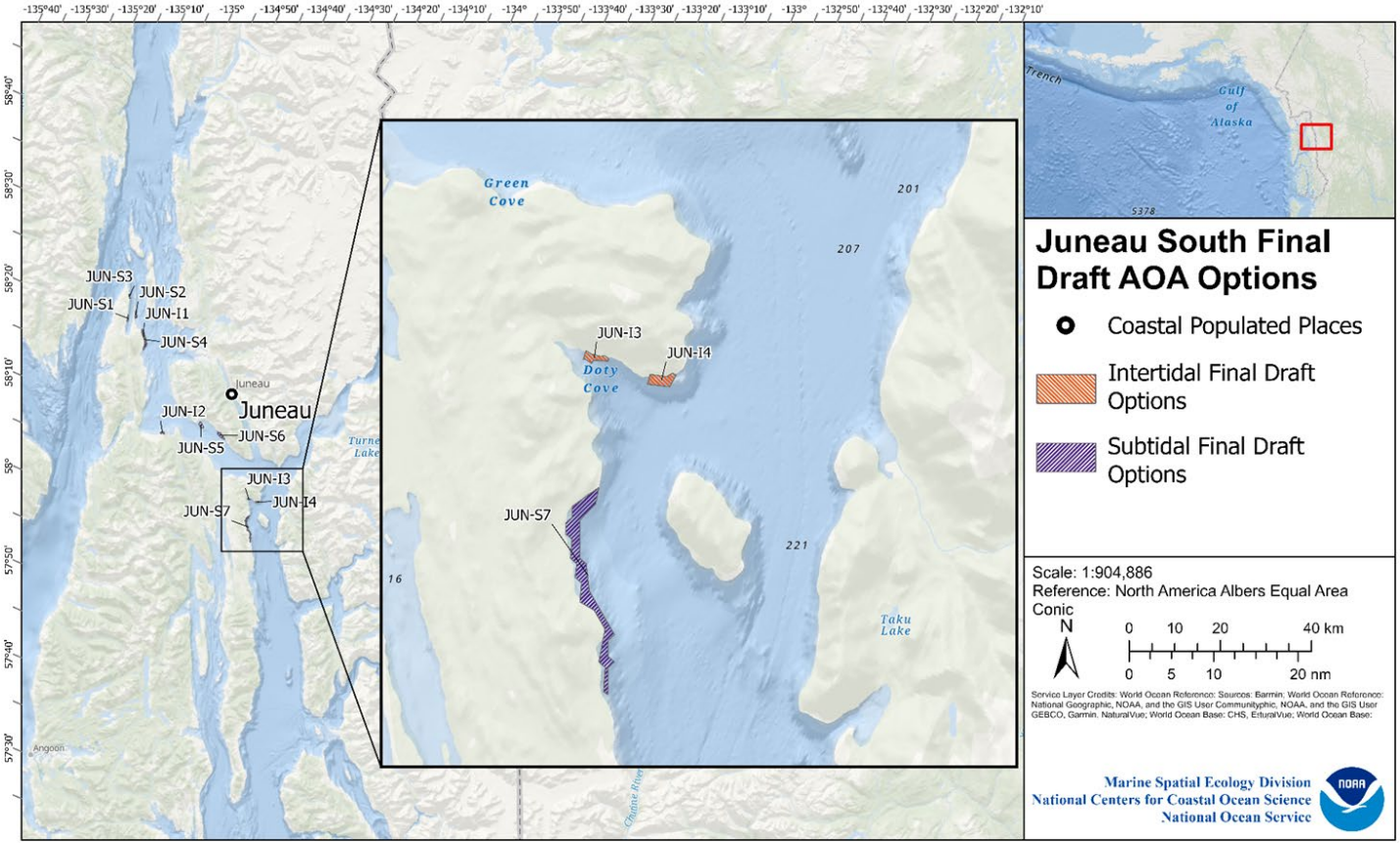

Example Juneau Draft AOA Options

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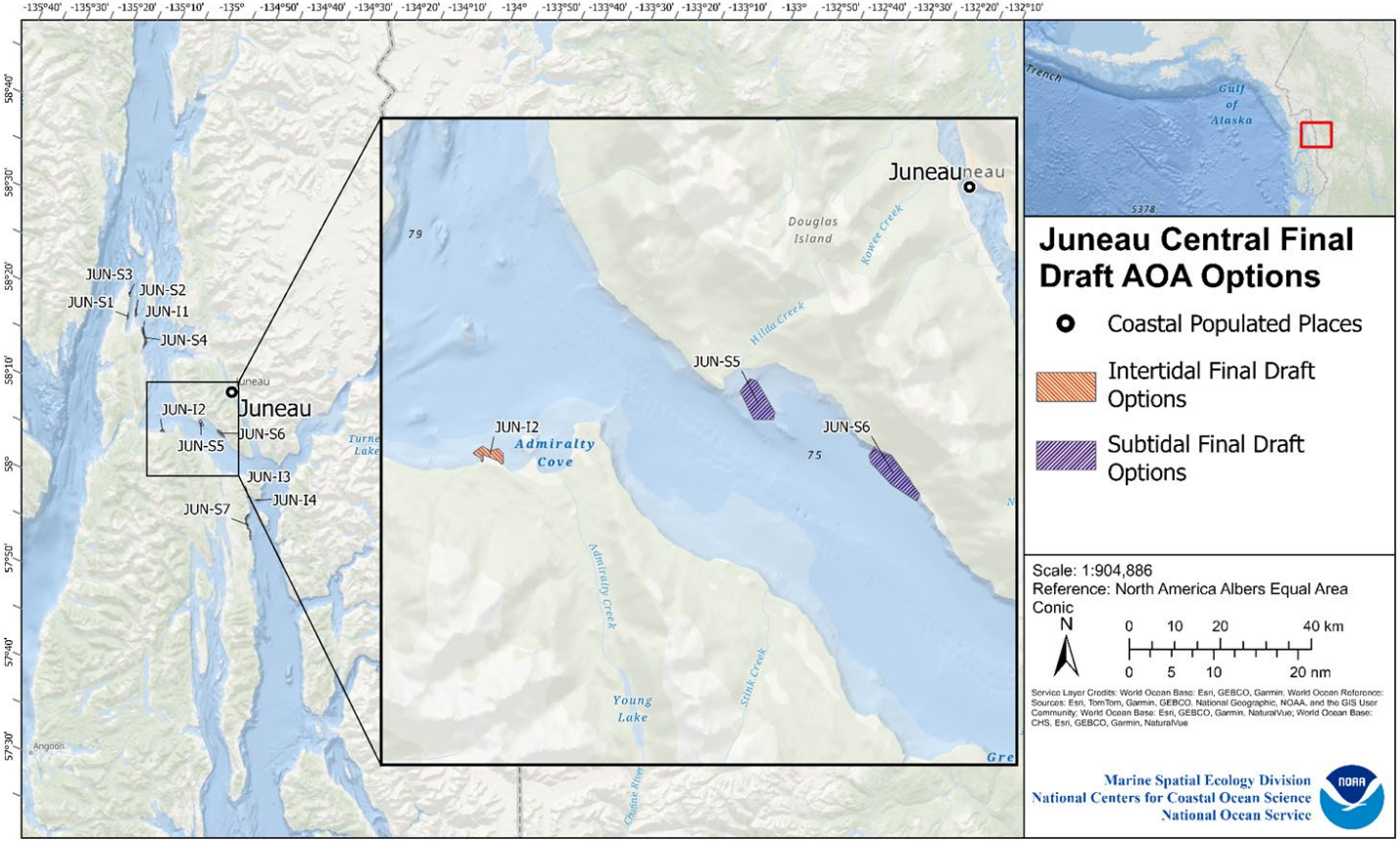

Example Juneau Draft AOA Options

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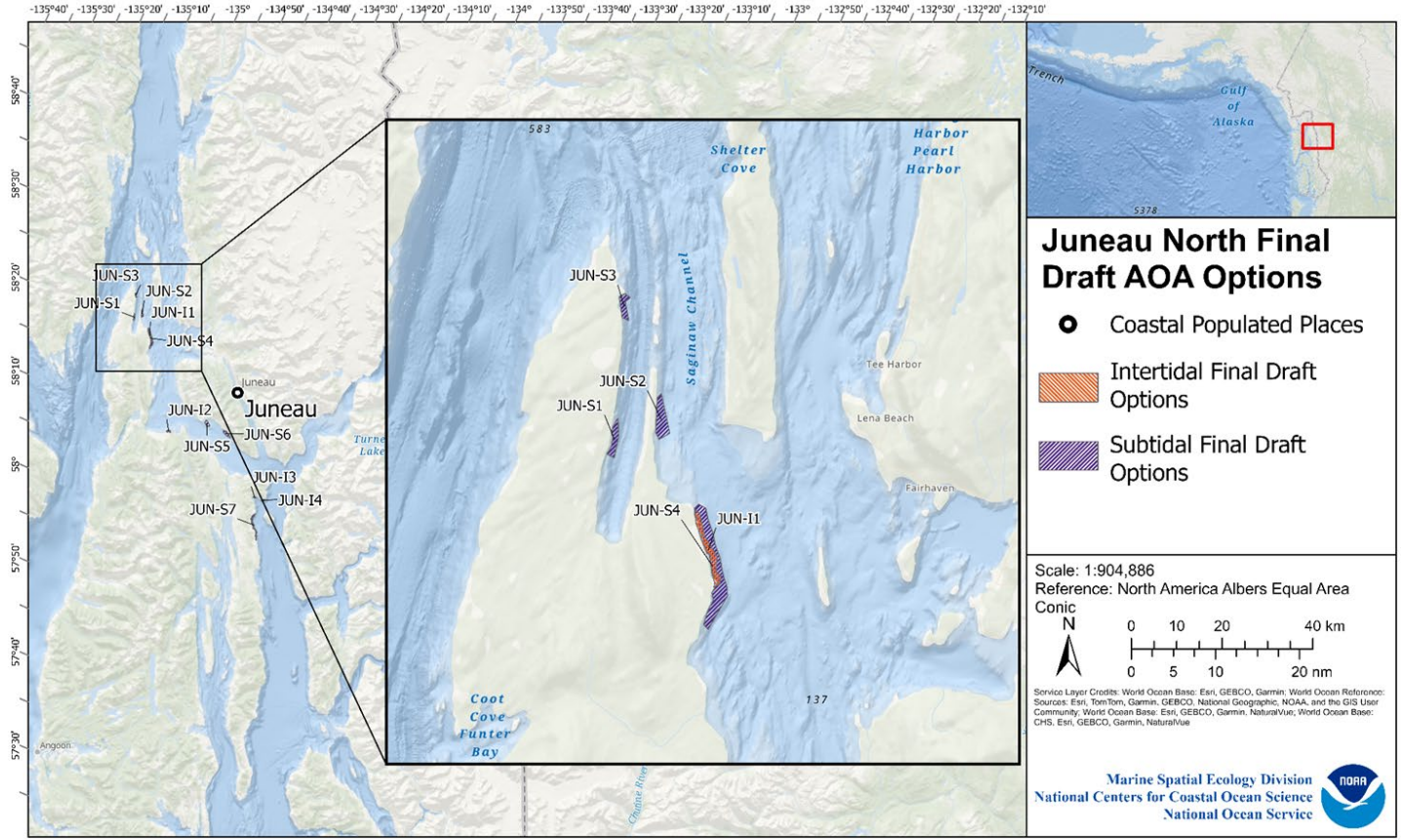


Example Juneau Draft AOA Options

NCCOS NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE

Final Draft AOA Option ID	Lat, Lng	Area (a)	Depth MLLW (min, max, avg) (m)	Avg seafloor slope (degree)	Avg distance to cpp (m)
JUN-S1	58.3516, -134.9	70.22	0.14, 91.4, 38.52	19.54	33323.97
JUN-S2	58.3636, -134.877	130.24	-2.52, 57.95, 31.83	9.4	28900.6
JUN-S3	58.3926, -134.928	52.63	0.46, 94.56, 39.44	16.84	32637.75
JUN-S4	58.3267, -134.811	433.06	-2.3, 63.26, 22.15	6.82	25057.26
JUN-S5	58.2177, -134.484	205.27	-1.36, 33.06, 24.5	1.66	29049.65
JUN-S6	58.2182, -134.42	246.79	1.24, 57.72, 36.73	5.63	25488.49
JUN-S7	58.0721, -134.17	371.68	-22.27, 64.91, 15.77	11.29	31751.33
JUN-I1	58.3309, -134.817	143.2	-14.67, 29.96, 6.64	6.55	25343.77
JUN-I2	58.1745, -134.607	64.79	-18.14, 17.2, 3.73	5.62	34315.43
JUN-I3	58.1224, -134.209	27.98	-8.83, 43.28, 17.91	14.89	27831.34

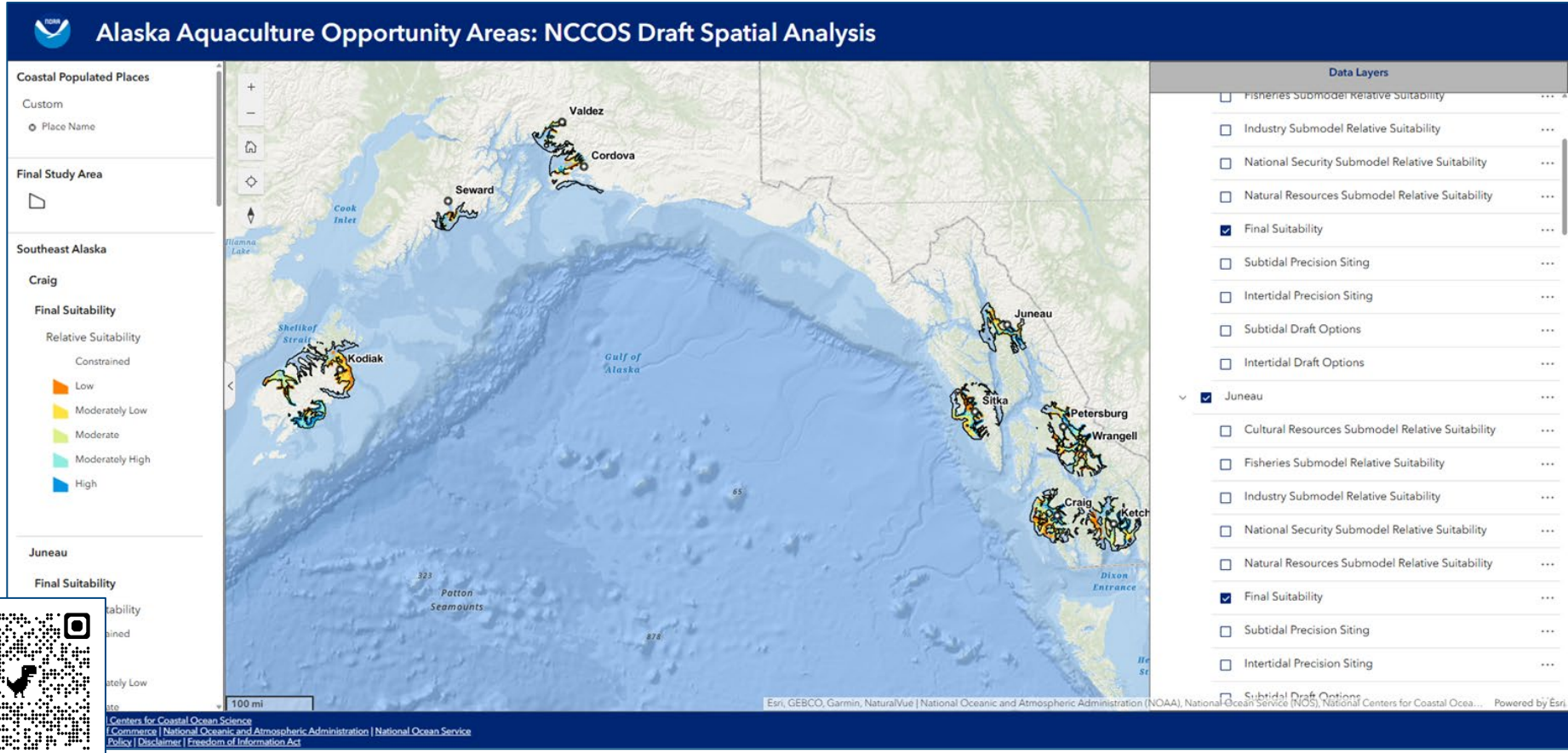
All Draft AOA Options

NCCOS NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE

Study Area	# of Subtidal Options	Total Subtidal Acreage	# of Intertidal Options	Total Intertidal Acreage	Total Acreage Per Study Area
SOUTHEAST					
Juneau	7	1,509 acres	4	286 acres	**1,795 acres**
Sitka	13	2,193 acres	3	591 acres	**2,784 acres**
Petersburg/Wrangell	8	3,258 acres	3	259 acres	**3,517 acres**
Craig	11	2,024 acres	3	242 acres	**2,266 acres**
Ketchikan	12	2,532 acres	3	283 acres	**2,815 acres**
SOUTHCENTRAL					
Seward	2	512 acres	0	0 acres	**512 acres**
Valdez	4	537 acres	0	0 acres	**537 acres**
Cordova	6	767 acres	0	0 acres	**767 acres**
SOUTHWEST					
Kodiak	13	2,336 acres	5	264 acres	**2,600 acres**

Check out the Webmapper

NCCOS NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE



Notice of Availability Questions

1. Is there any additional information not included in the study for one or more of the Draft AOA Options that could limit their relative **economic or technical suitability**?
2. Are there conditions associated with any Draft AOA Options not documented in the study which **impact the sites viability**?
3. Are there h**istoric properties, archaeological and cultural resource sites** on the seabed or shoreline overlapping with the Draft AOA Options?*
4. Is there **any additional information** on **conflicting uses** within one or more of the Draft AOA Options including navigation, fisheries, habitat and protected resources, or other conflict?
5. Is there **other relevant** socioeconomic, cultural, biological, and/or environmental spatial data and **information not documented** in the draft spatial analysis?

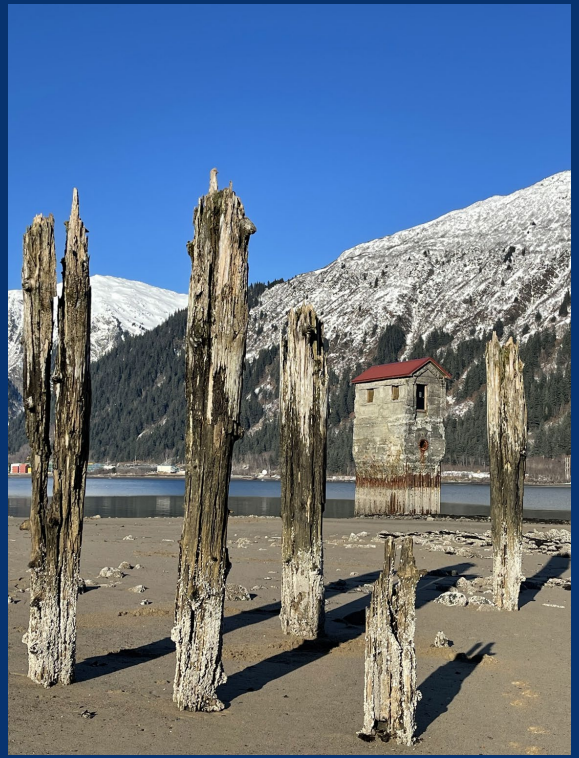
NOAA FISHERIES

Submit Written Comments

- Public comment period ends **May 23, 2025**
- Electronic Submission at:
  - Regulations.gov
  - Search for NOAA-NMFS-2023-0113.
  - Click on the “Comment” icon
  - Complete the required fields, and enter or attach your comments
- Mail Submission to:
  - **Jon Kurland**, Regional Administrator for the Alaska Region NMFS, Attn: Records Office
  - P.O. Box 21668, Juneau, AK 99802-1668

NOAA FISHERIES

Public Comment Session



- Click “Raise Hand” to enter the line - You will be prompted to unmute yourself when it is your turn to speak.
- Provide your name, affiliation, and town of residence
- There is a 2 minute time limit, after which the operator will mute you
- You also have the option to submit comments in the comments box
- To maximize time to gather comments NOAA will not respond to comments
- We are only accepting comments on the questions asked in the Notice of Availability on AOAs
- If there is time you can rejoin queue

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Thank You!

For your comments and consideration of the Alaska Draft AOA Options

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