

Arctic Marine Indigenous Use: Tools for Communities

Aleut International Association



**Maryann Fidel
Jim Gamble
Layla Hughes**

Goal: To produce a tool which makes use of established techniques and open source software that will allow coastal Indigenous communities to produce their own scientifically justifiable maps of marine use.

Three Phases:

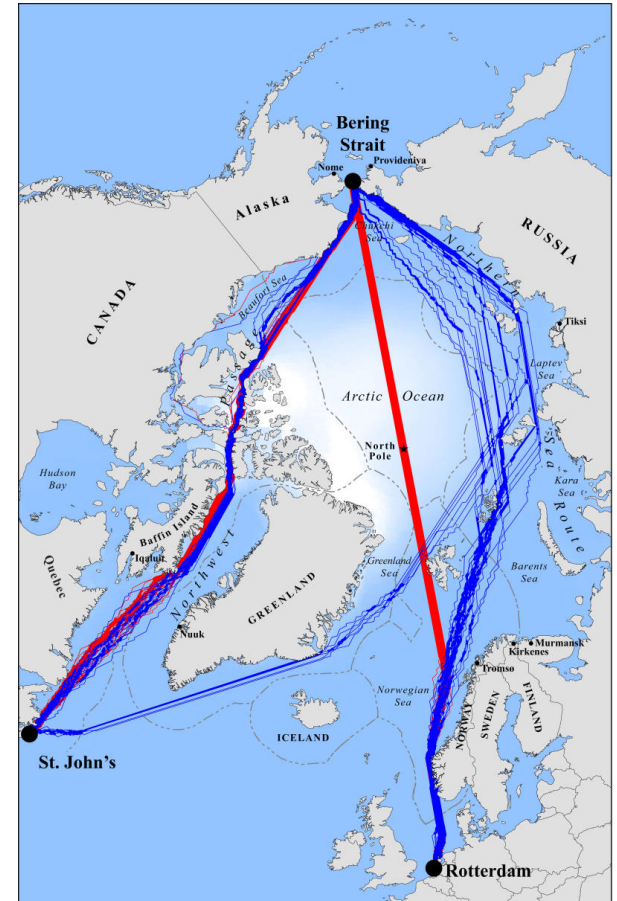
1. State of Knowledge Report
2. First Draft Handbook (with expert review and comment)
3. Testing of the Tool in Three Communities

The finished tool will be freely disseminated via Arctic Council and other communication channels to any interested community.

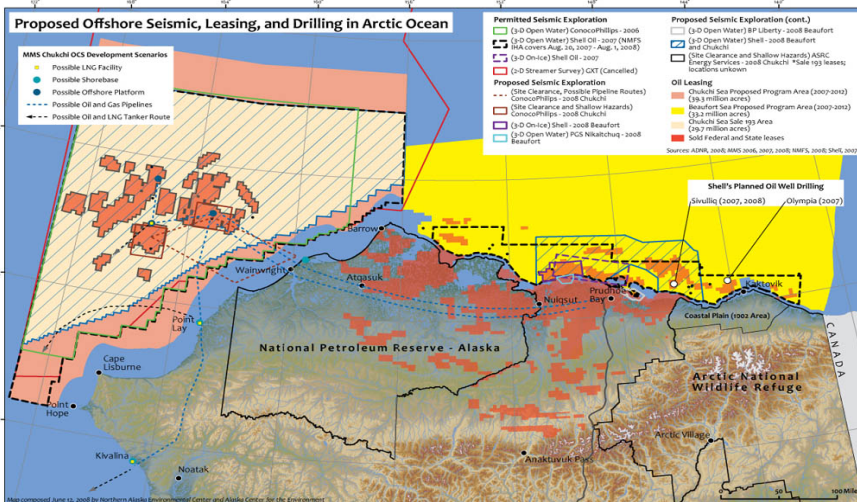
Why is a tool like this needed?



Great Circle Route Shipping Through the Aleutians



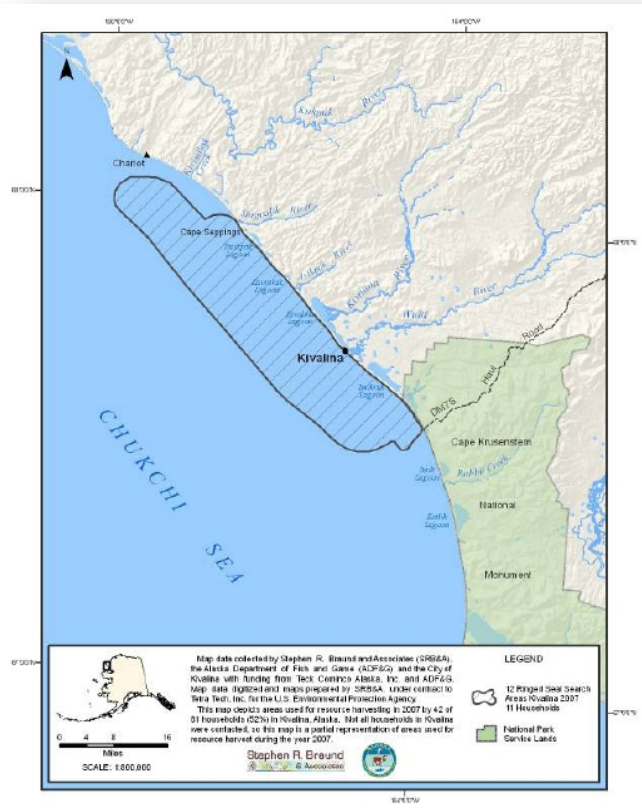
Projected increases in shipping through the Arctic Ocean



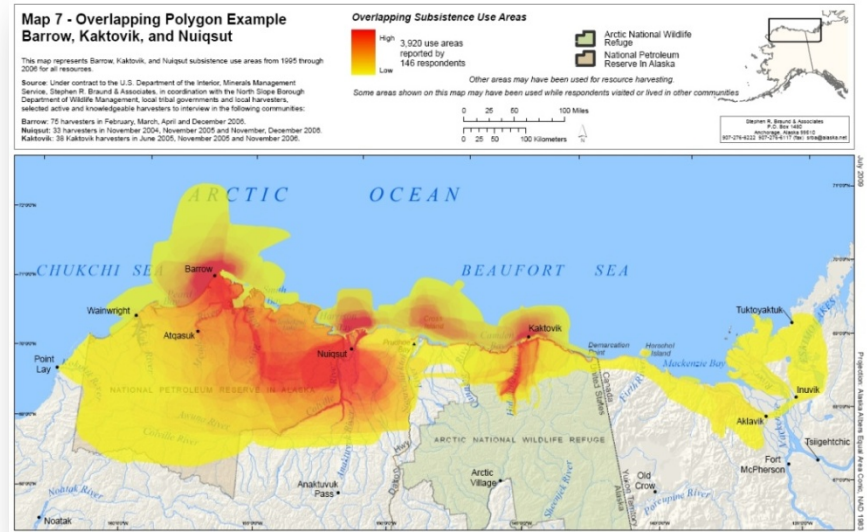
Potential areas of offshore resource development

Subsistence Mapping

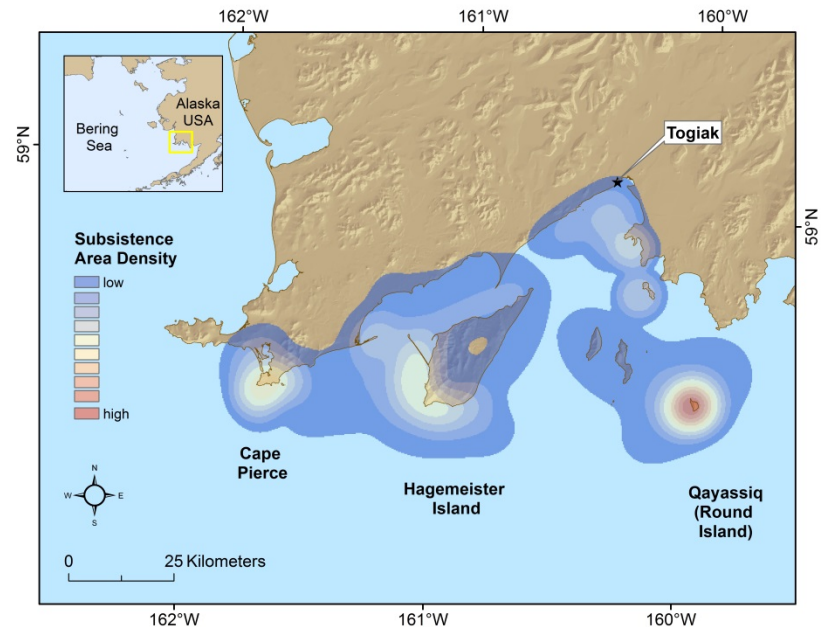
1



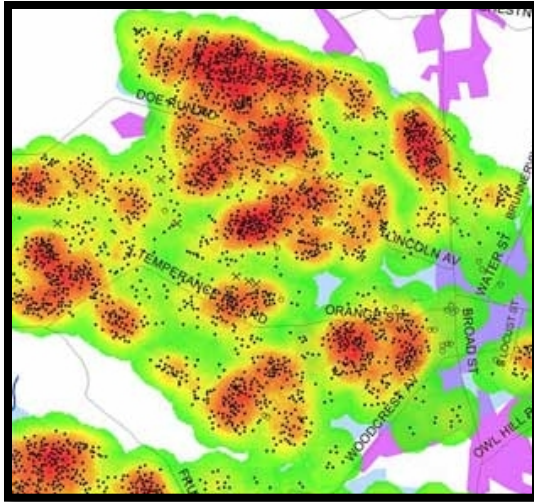
2



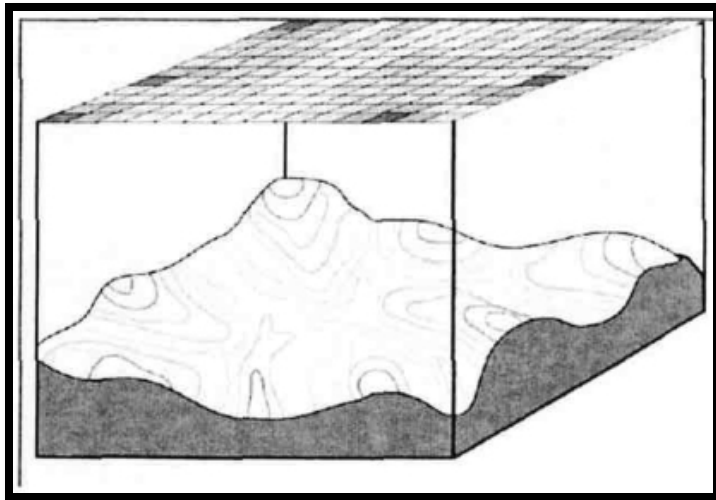
3



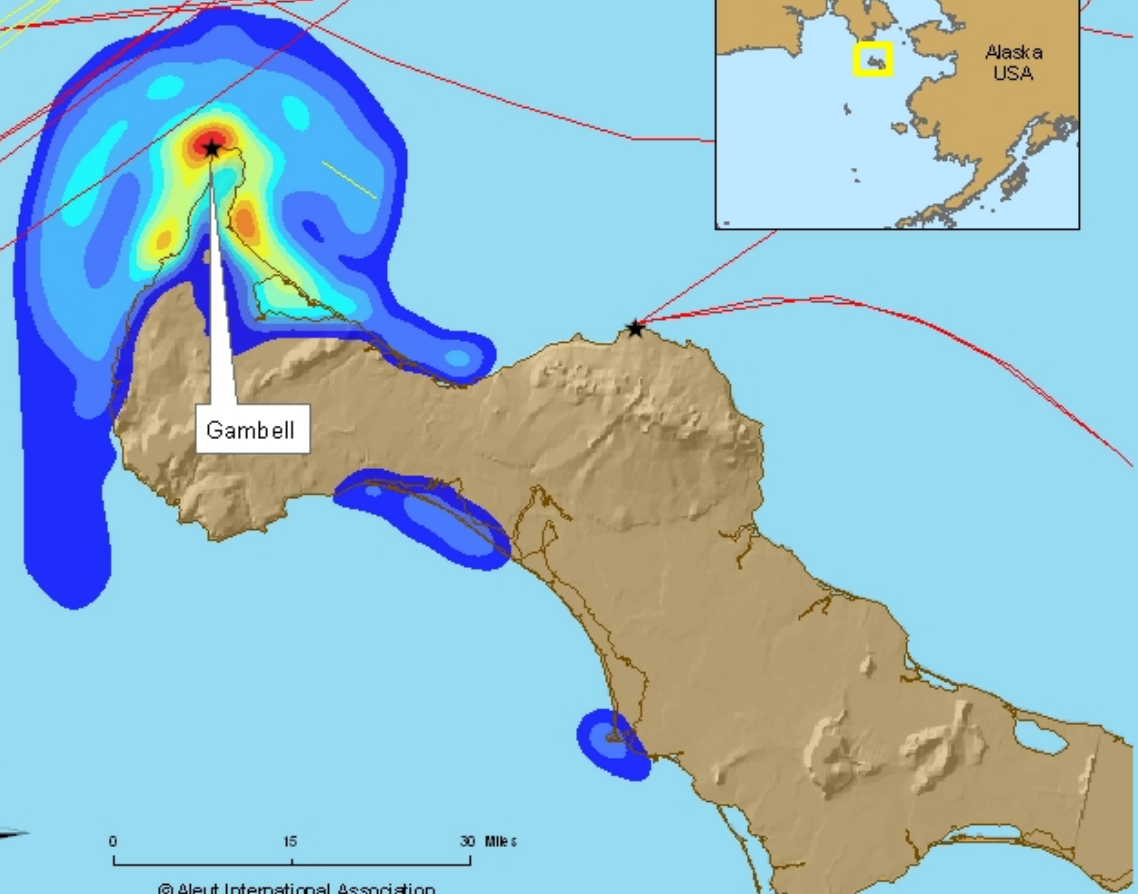
Density Mapping in GIS



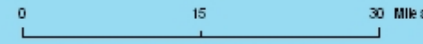
- Reveals general patterns, spatial trends
- Fits a smooth surface over point values
- Calculations are based on the quadratic kernel function



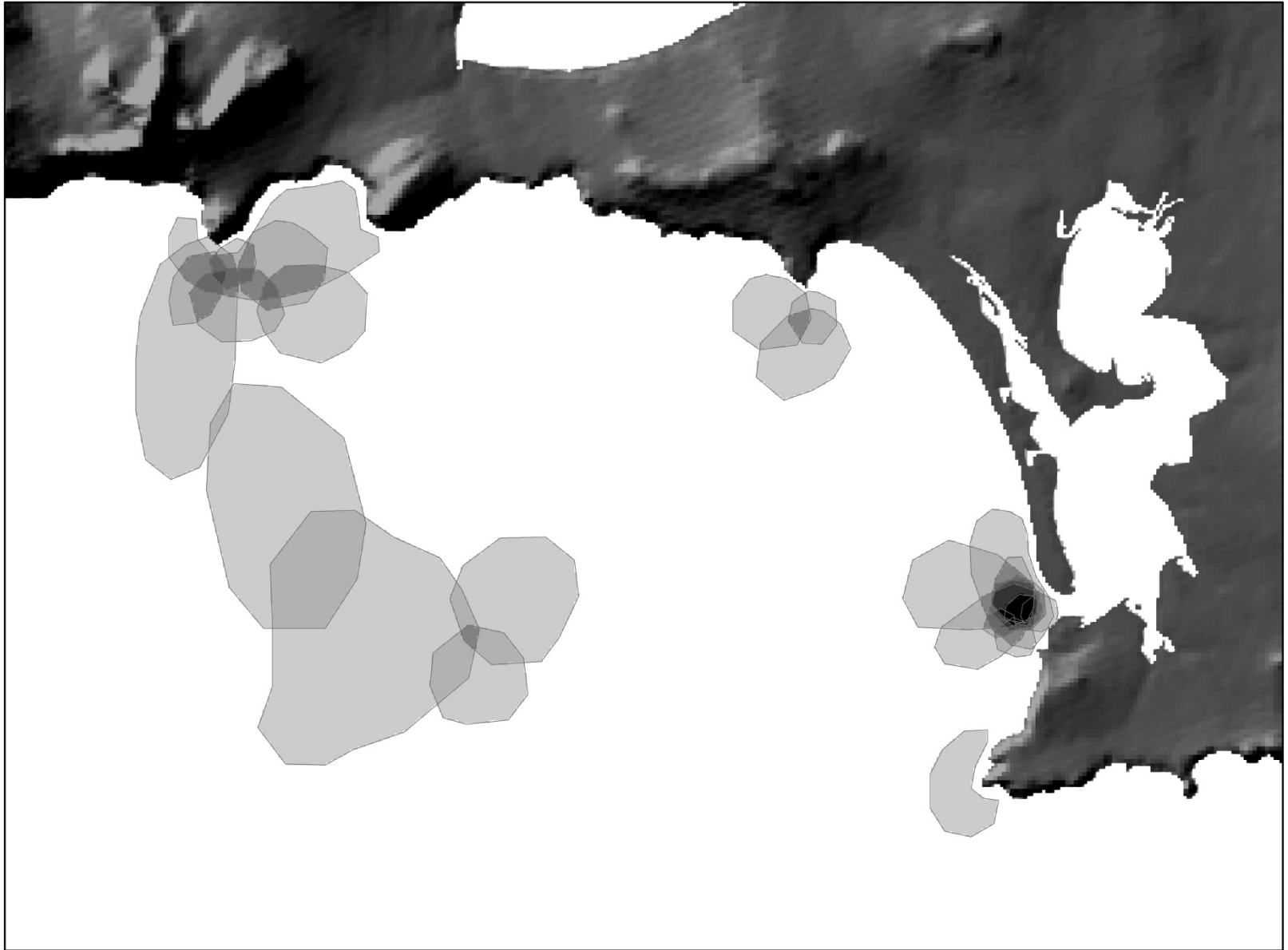
Subsistence Harvest Areas Fall 2009 and Shipping Routes Fall 2004 and Fall 2009



This map was created by the Aleut International Association and the UAA RAM group as part of the community-based research project, the Bering Sea Sub-Network (BSSN). This research is funded by the National Science Foundation, project #0856774. Species included in this analysis are bowhead whale, walrus, seal and salmon. This map includes input from 37 residents of Gambell, Alaska. Shipping data from 2004 is from the Arctic Marine Shipping Assessment 2009 Report. Shipping data from 2009 is from the Marine Exchange of Alaska.



© Aleut International Association



Current Project Status

- State of knowledge paper complete has been published in the Environmental Law Reporter (Oct 2013 Issue)
- First Draft Handbook and Software Suite Developed
- Refinement Workshop took place in the first quarter of 2014 in conjunction with the Alaska Ocean Observing Systems Spatial Tools for Arctic Mapping and Planning (STAMP) Workshop and the Center for Ocean Sciences Education Excellence community based monitoring (CBM) workshop.
- Funding for Community testing of the tool has been applied for from the North Pacific Research Board, if approved work to begin in Fall of 2015

Questions?
Contact us at:
aia@alaska.net



OAK
FOUNDATION