

EXAMPLE MQ: CARIBOU

Management Questions

North Slope

TF-2. What are caribou preferences for vegetation communities? Where do these vegetation communities exist?

Central Yukon

T1. What areas would be most likely to biologically support a reindeer herd?

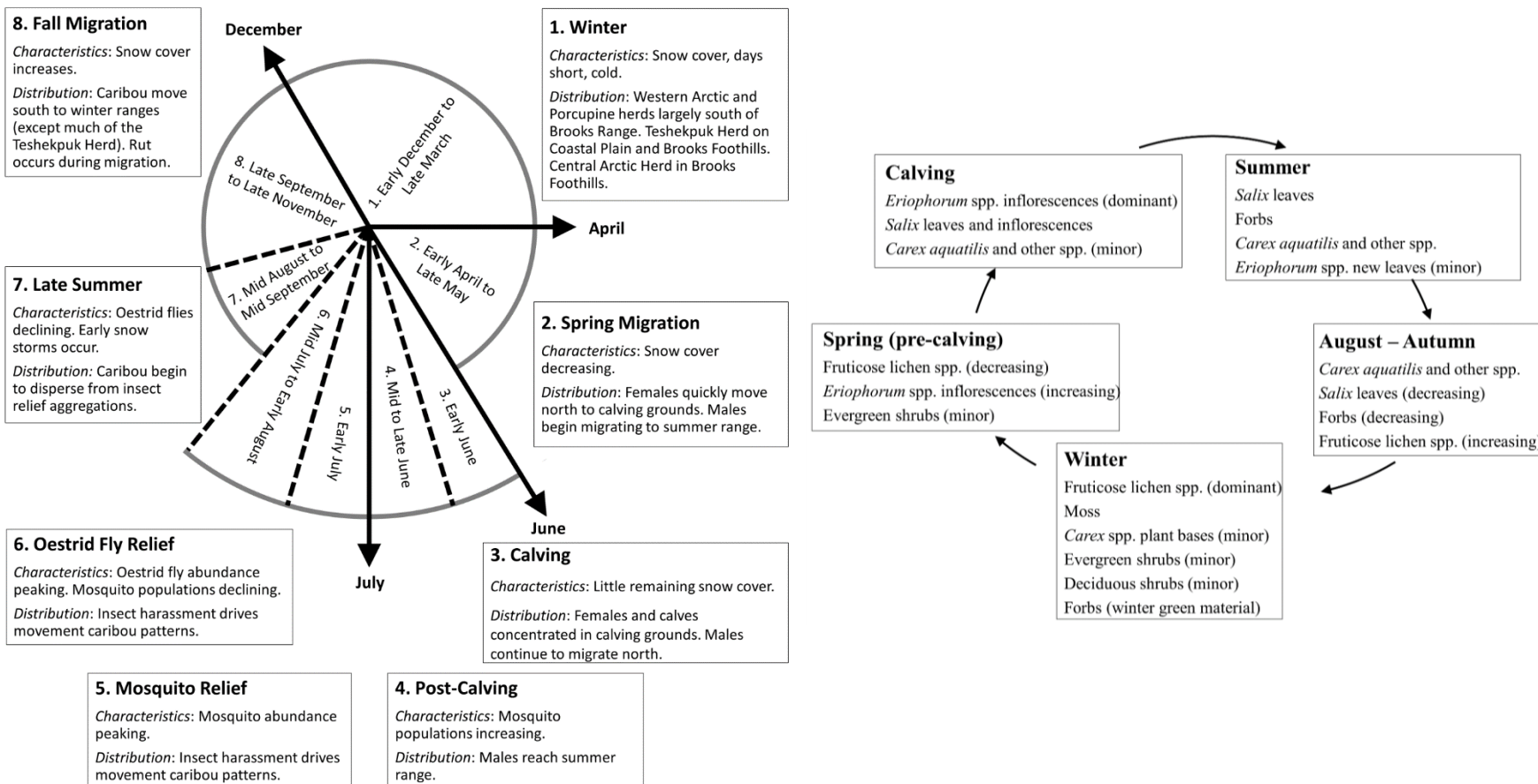
Types of Resources

- Literature review
- Conceptual diagrams
- List of meso- (NOS) or fine-scale (CYR) vegetation communities and qualitative forage quality
- Spatial products

Literature review and conceptual diagrams available in report.

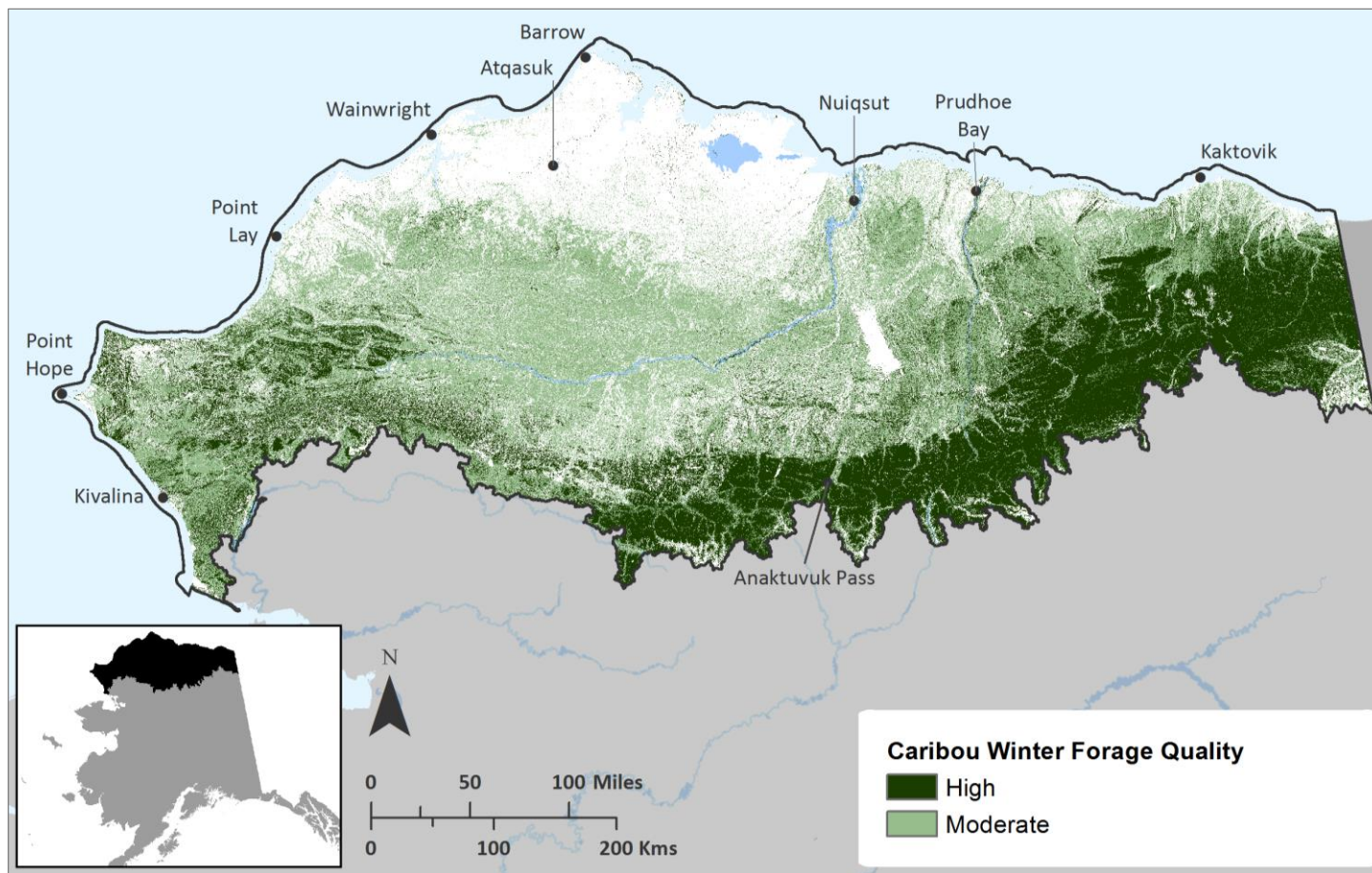
List and spatial products in data and models.

Conceptual Diagrams



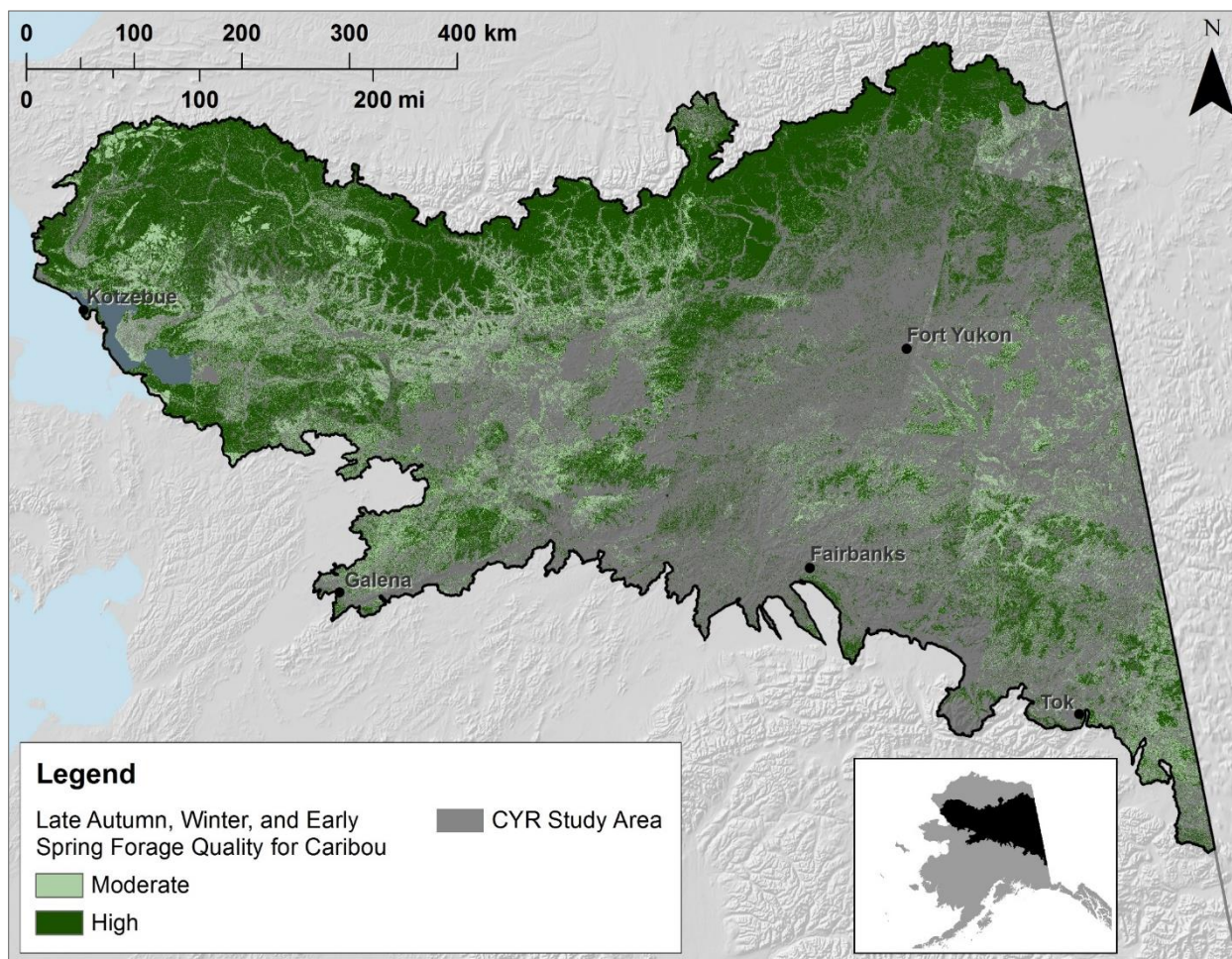
Conceptual diagrams for seasonal movements and related seasonal forage.

Spatial Products



Example: winter forage quality on North Slope

Spatial Products



Example: winter forage quality in Central Yukon

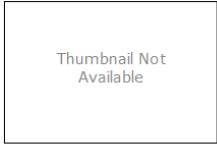
APPROPRIATE & INAPPROPRIATE USE OF REA DATA

Metadata

ArcGIS Internal Metadata

FGDC External (xml) Metadata

NOS_TS_C_180701_Caribou_TeshekpukWinterRange
File Geodatabase Feature Class



Thumbnail Not Available

Tags
wildlife, biota

Summary
This dataset was developed for the BLM Rapid Ecoregional Assessment for the North Slope and represents a best estimate of current winter range of the Teshekpuk Herd.

Description
This dataset was developed for the BLM Rapid Ecoregional Assessment for the North Slope and represents a generalized winter range for the Terrestrial Fine-Filter Conservation Element caribou: Teshekpuk Herd. A winter kernel density of Teshekpuk Herd from 1990 to 2010 was produced for the National Petroleum Reserve - Alaska (NPR-A) Environmental Impact Statement (EIS) published in 2012. This dataset provided the basis for this generalized winter range. Winter range was also adjusted based on the annual kernel density. Caribou radio/satellite collar location data were not made available to Alaska Natural Heritage Program, and Alaska Department of Fish and Game did not conduct kernel analyses based on season. This dataset represents a best estimate of winter range in the absence of kernel density analysis using the same methods as was done for the annual kernel densities produced for this assessment. Winter range is specific to parturient females and calves. Males and non-parturient females are not considered in the depiction of this range.

Credits
There are no credits for this item.

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Generalized Summer Range of Central Arctic Herd
FGDC Metadata
[Show Definitions](#)

[Description](#) | [Spatial](#) | [Data Structure](#) | [Data Quality](#) | [Data Source](#) | [Data Distribution](#) | [Metadata](#)

+ Resource Description

Citation
Title: Generalized Summer Range of Central Arctic Herd
Originators: Timm Nawrocki, Alaska Natural Heritage Program, University of Alaska Anchorage
Publication date: 20150810
Data location: None

Description
Abstract: This dataset was developed for the BLM Rapid Ecoregional Assessment for the North Slope and represents a generalized summer range for the Terrestrial Fine-Filter Conservation Element caribou: Central Arctic Herd. The Alaska Habitat Management Guide, published 1985 to 1986 by Alaska Department of Fish and Game, include seasonal ranges of caribou herds in Alaska. Although now outdated, the Alaska Habitat Management Guide still provides the best generalized spatial distribution information for many caribou herds in Alaska. Seasonal Ranges of Caribou Herds in Alaska is a spatial dataset based primarily on the Alaska Habitat Management Guide and modified by expert opinion and management reports. The Seasonal Ranges of Caribou Herds in Alaska provided a summer range for the Central Arctic Herd that was modified to fit within the annual kernel density from 2004 to 2014. Caribou radio/satellite collar location data were not made available to Alaska Natural Heritage Program, and Alaska Department of Fish and Game did not conduct kernel analyses based on season. This dataset represents a best estimate of summer range in the absence of kernel density analysis using the same methods as was done for the annual kernel densities produced for this assessment.
Purpose: This dataset was developed for the BLM Rapid Ecoregional Assessment for the North Slope and represents a best estimate of current summer range of the Central Arctic Herd.
Supplemental information: Central Arctic Herd summer range is based on the Alaska Habitat Management Guide, management reports, expert opinion, and the annual kernel density from 2004 to 2014.

Point Of Contact
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Instructions: <http://accs.uaa.alaska.edu>
Address type: mailing and physical
Address: 3211 Providence Dr
City: Anchorage
State or Province: AK
Postal code: 99508
Country: US

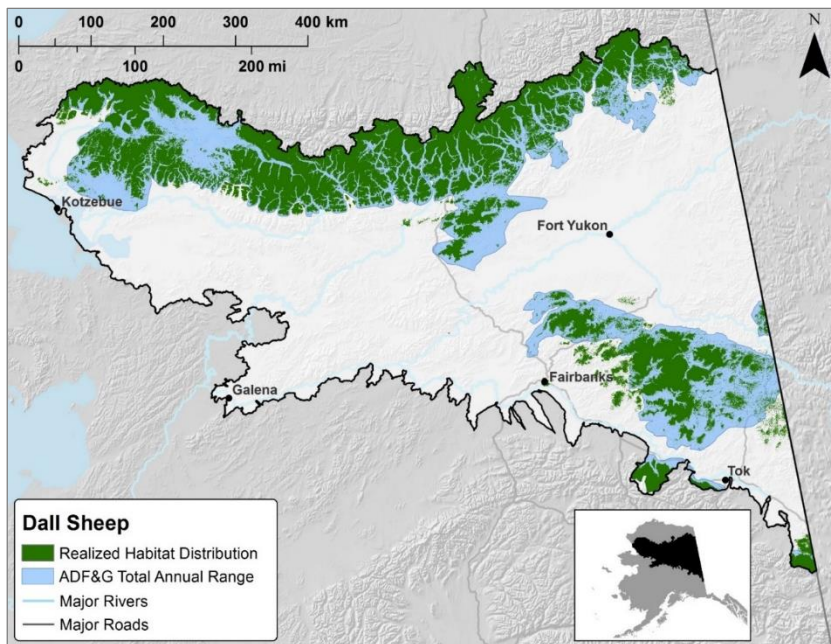
Data Type
Native dataset environment: Microsoft Windows 7 ESRI ArcGIS 10.2.2

Interpreting and misinterpreting results

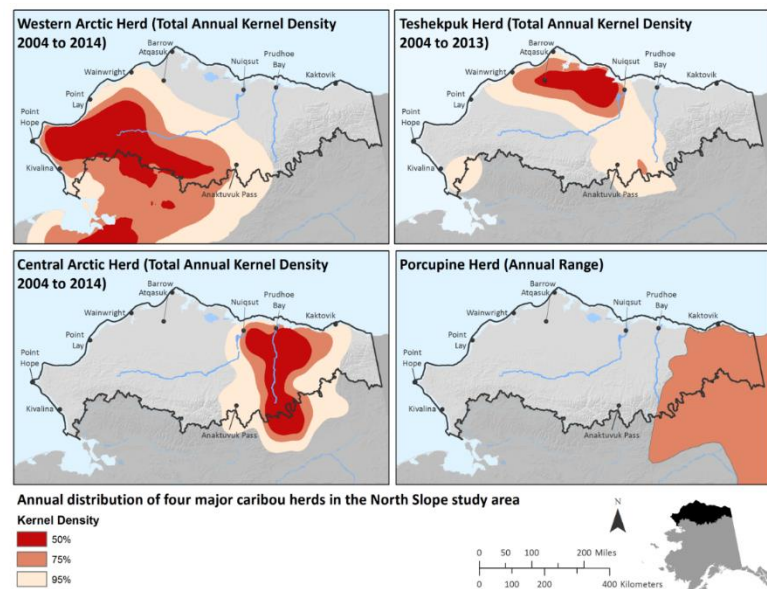
- Absence of universal interpretations
- Color and legend
- Interpretation depends on use
- Current and future status vary in uncertainty
- Accuracy is unknown for some features (biophysical settings)
- Appropriate scale of analysis or re-analysis
- Varying data quality

Comparing indices between CEs

- Distributions are not standardized between CEs
- ***Interpretation*** is required because intersections indicate magnitude of change not species response
- Context for species response provided in report text

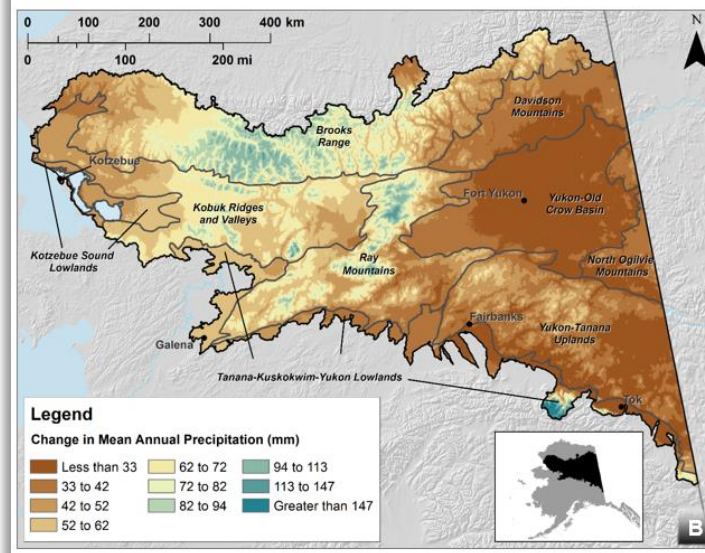
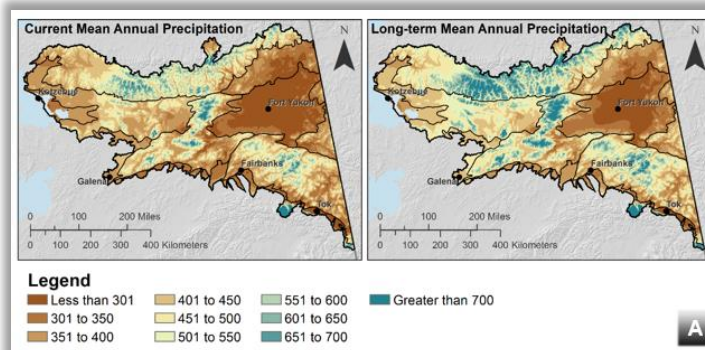
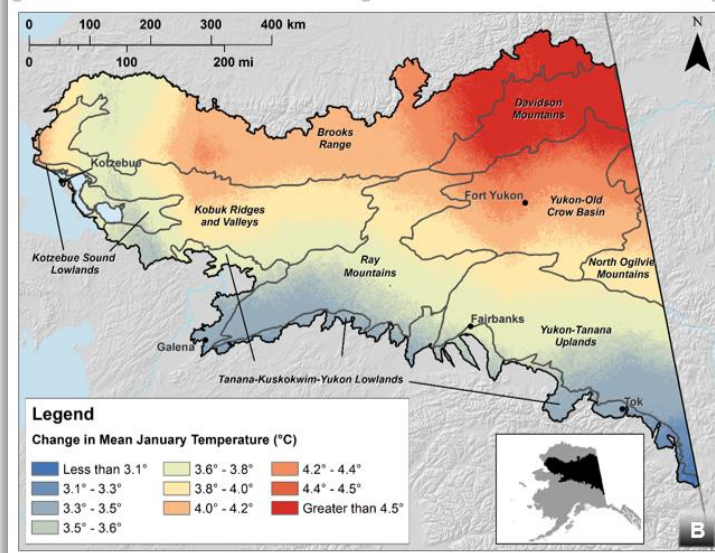
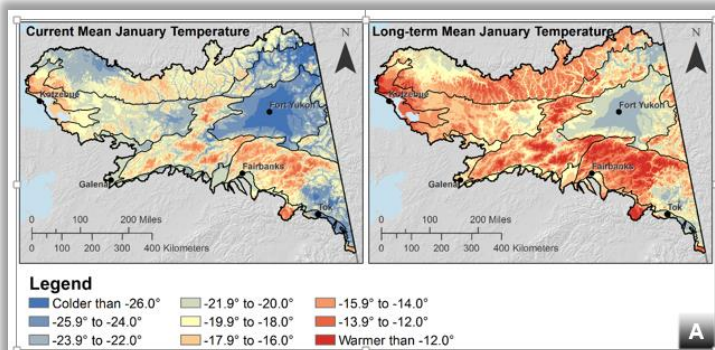


VS



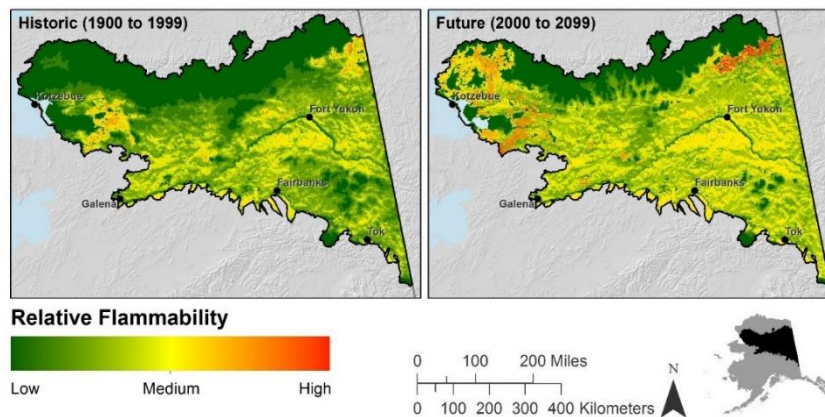
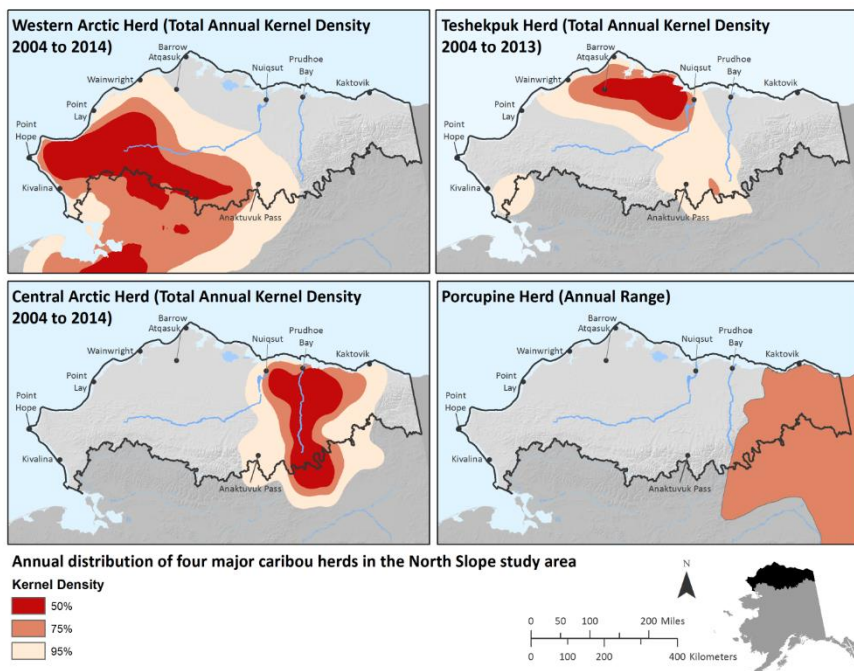
Interpreting Legends

Interpretation is required! Critical analysis of the legend and the subject is very important. This area shows a change in precipitation and a change in temperature. That could be significant...



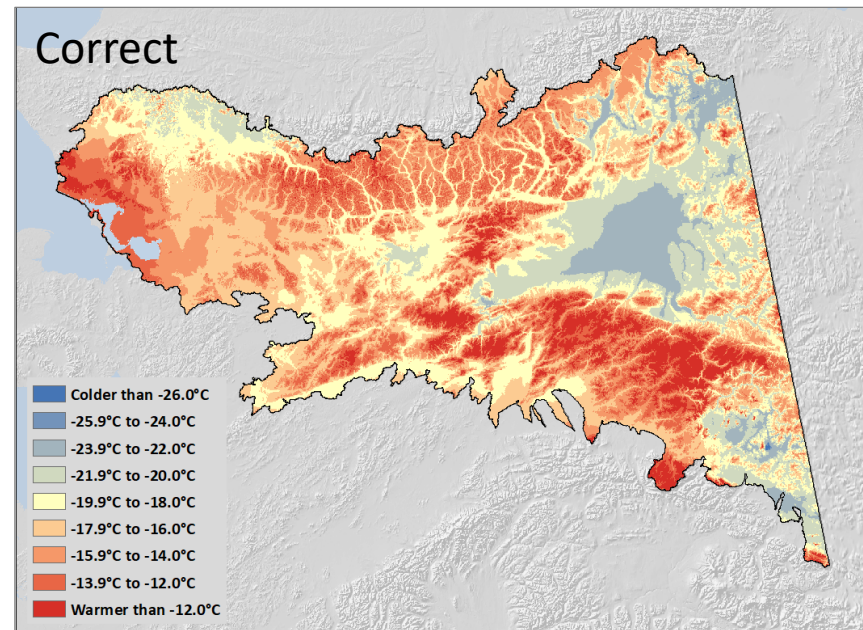
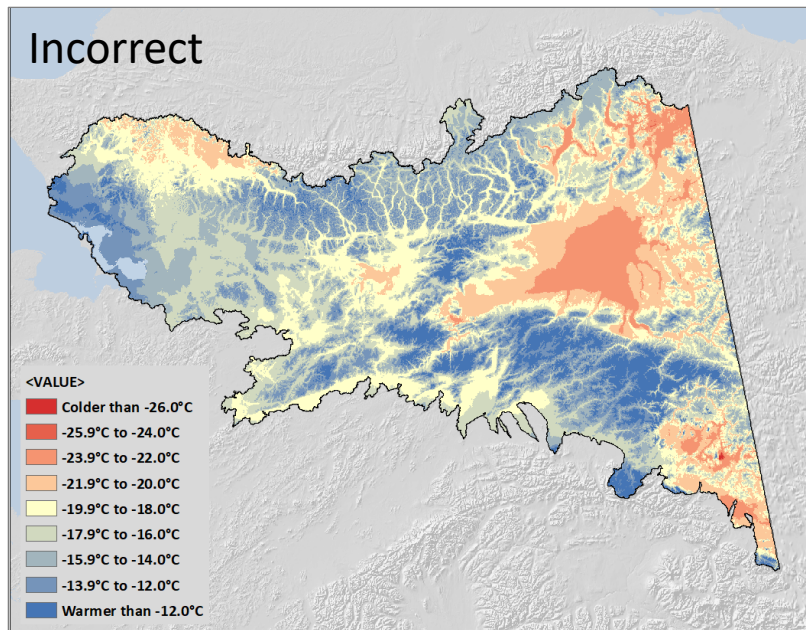
Color Schemes

- Red (bad) to green (good) color scheme
 - Not necessarily the case!



Different meanings of red: high species density “good” (left) and greatest intensity of change in relative flammability “bad” (right)

Color Flipping



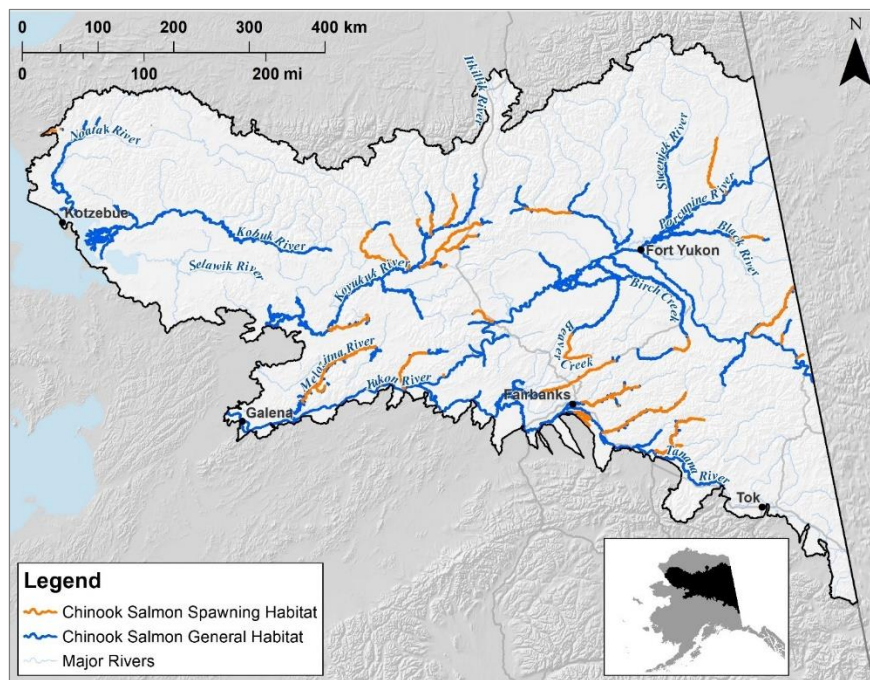
Inverting color schemes from the delivered version generates confusion

Inappropriate Scale

- Clipping to a small area and ignoring the context around it
- Analyzing a single pixel value to determine entire answer
- Resampling to a smaller scale (30m)



Incorrect: Chinook habitat
absent from the southeastern
part of study area

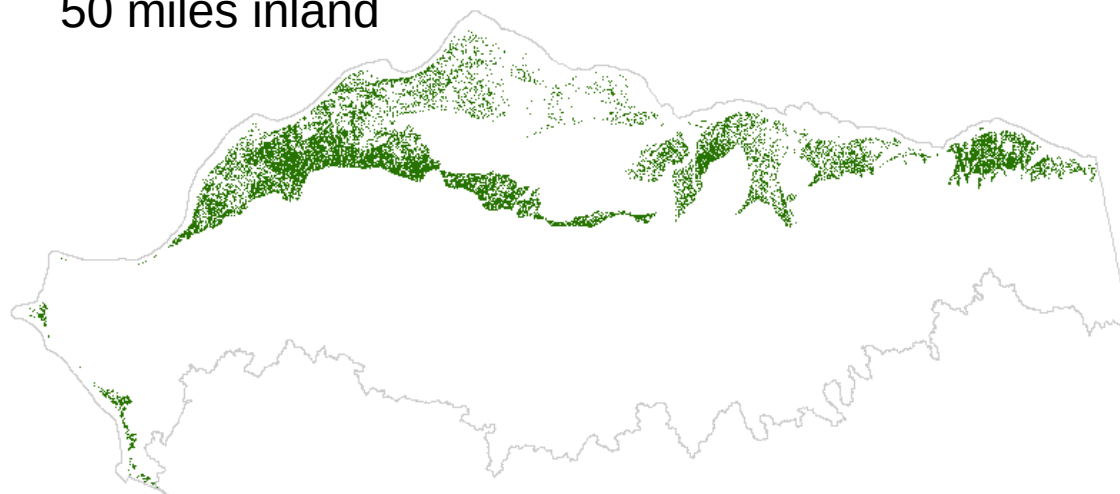


Correct: Chinook spawning areas
throughout the ecoregion

Patches vs Matrix

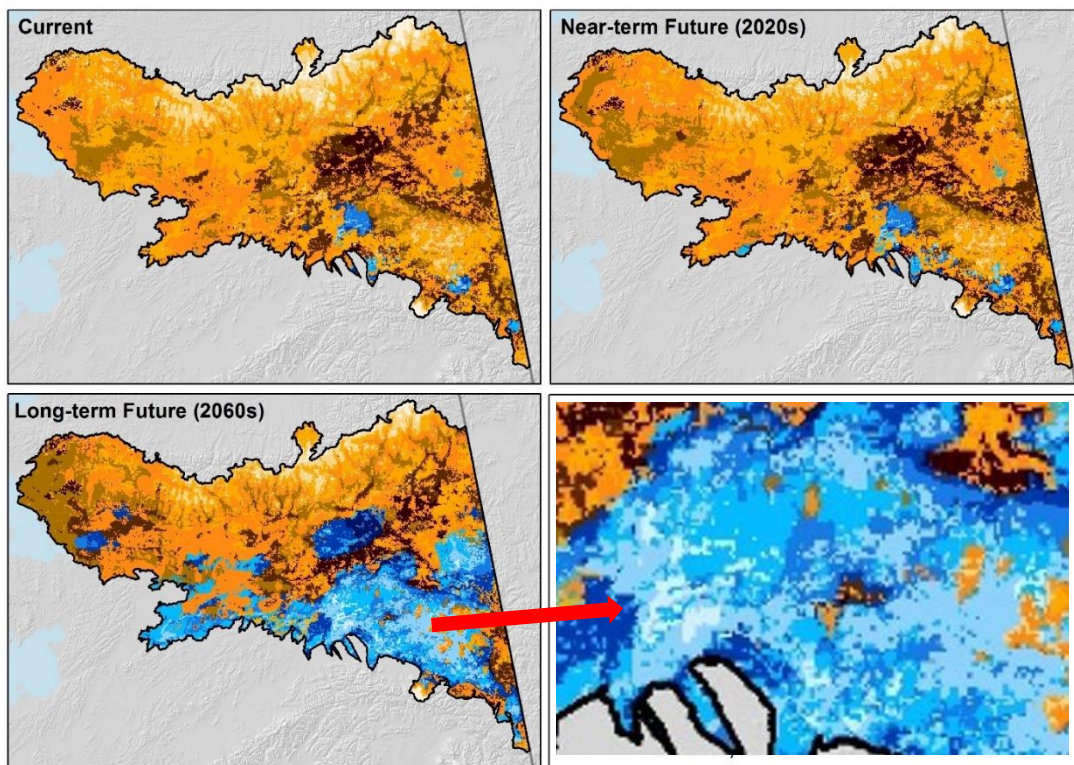
- Patches out of context may not represent a matrix as a whole

Correct: coastal plain moist tundra can be found more than 50 miles inland



Incorrect: coastal plain moist tundra is primarily along the coast

Hot Spots



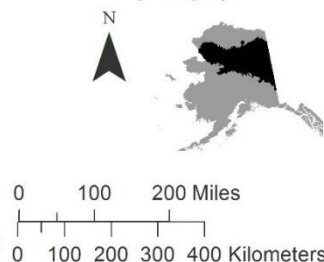
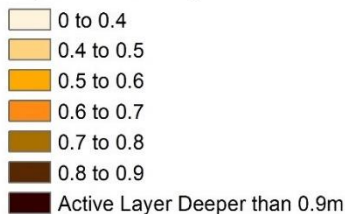
- Unique areas should not be considered in isolation
- For example, looking at the area in the close up you see the area is more patchy than at first glance

Decadal Active Layer Thickness and Seasonal Soil Freeze-Thaw Depth (m)

Depth of Seasonal Freeze



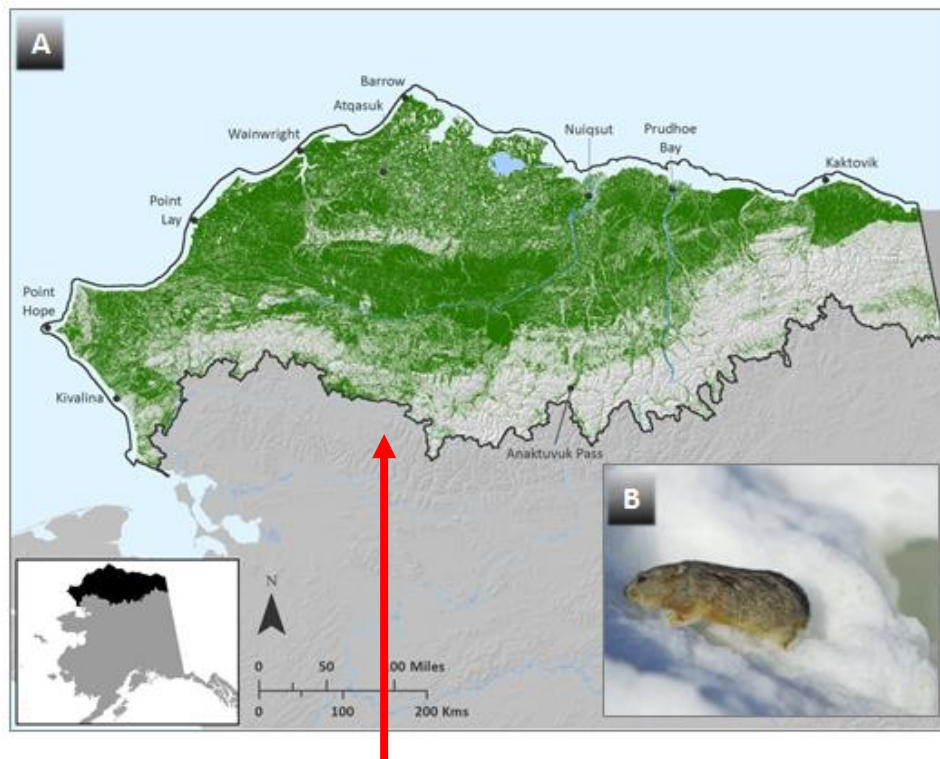
Depth of Active Layer



Data Quality

Consider Inputs

- Accuracy
- Age
- Completeness
- Issues/gaps
- Alternative datasets

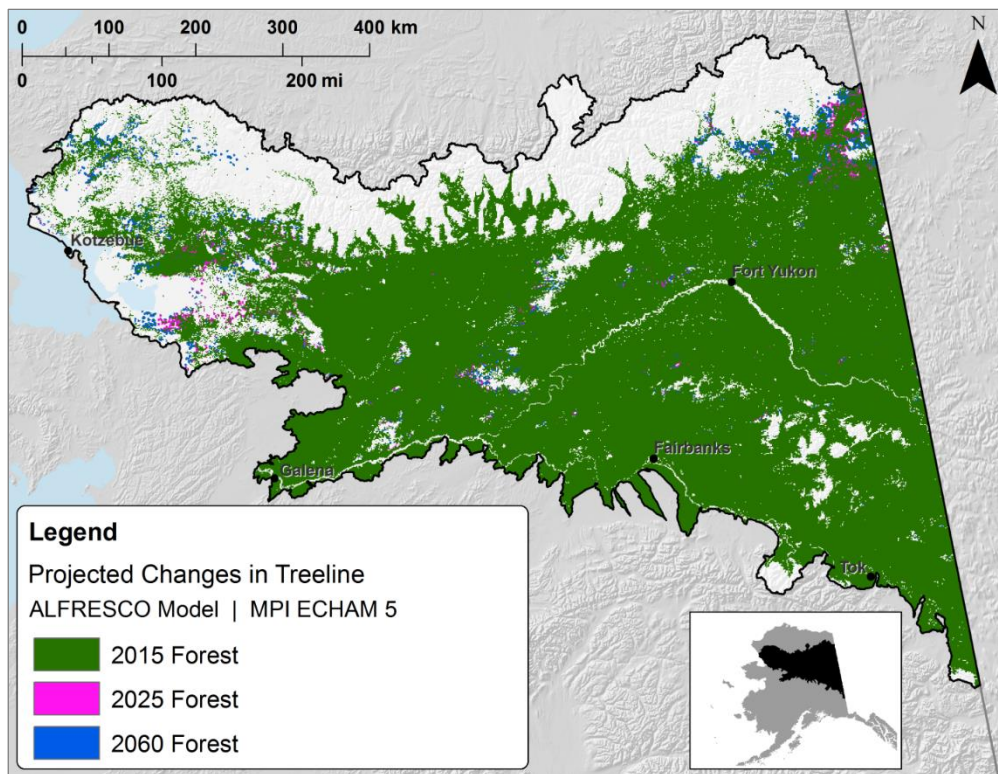


Original not validated, CS = 0.28

- REA's are comprised of the best available landscape data
- Sometimes no good data was available

Data Out of Context

Some datasets are especially prone to misinterpretation without reading the corresponding report text



Example: expansion of ALFRESCO “forest” fire type includes low shrub tundra, tall shrub tundra, wetland forest, floodplain forest, and upland forest vegetation communities

Data Limitations

- Some datasets lack accuracy assessment
- Accuracy of future projections unknown
- Accuracy assessment of indexes not possible
- For some important ecosystem processes or functions, no or poor surrogate available
 - Natural breaks gives a relative condition, not biological capacity.
- Geospatial inequality across landscapes.
 - Regional data not always available, high quality data sometimes not complete across entire study area

Data Gaps

Data gaps are thoroughly documented throughout main report and summarized in Section K

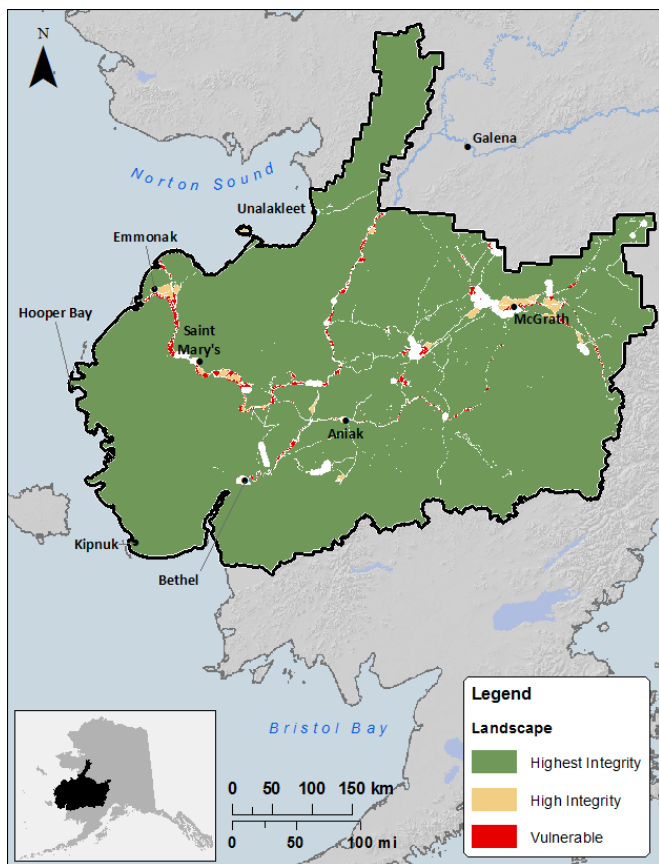
Data gaps indicated future data and monitoring needs

One of the main results of the REA effort

APPLICATIONS OF REA DATA

YKL REA and BSWI RMP

Goal of incorporating landscape assessment into land use planning process

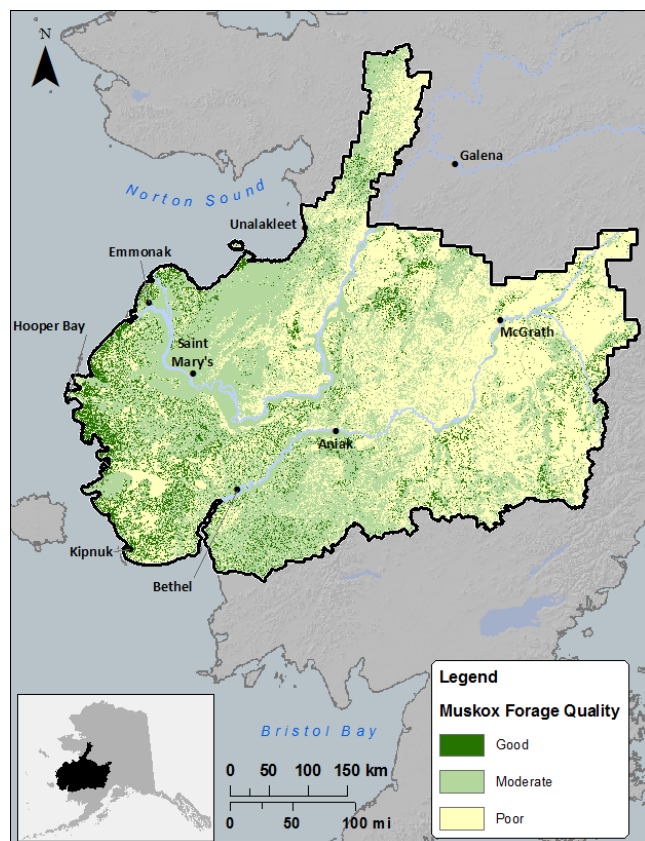


Tailored existing assessment methods for select variables to a BLM planning area

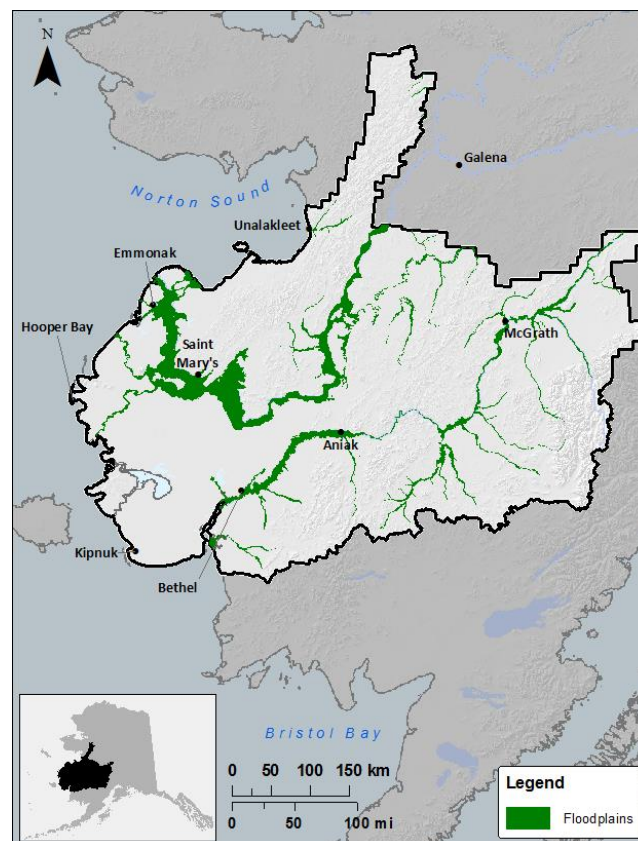
Landscape Integrity in the BSWI RMP

YKL REA and BSWI RMP

Methods from YKL REA applied to a planning boundary



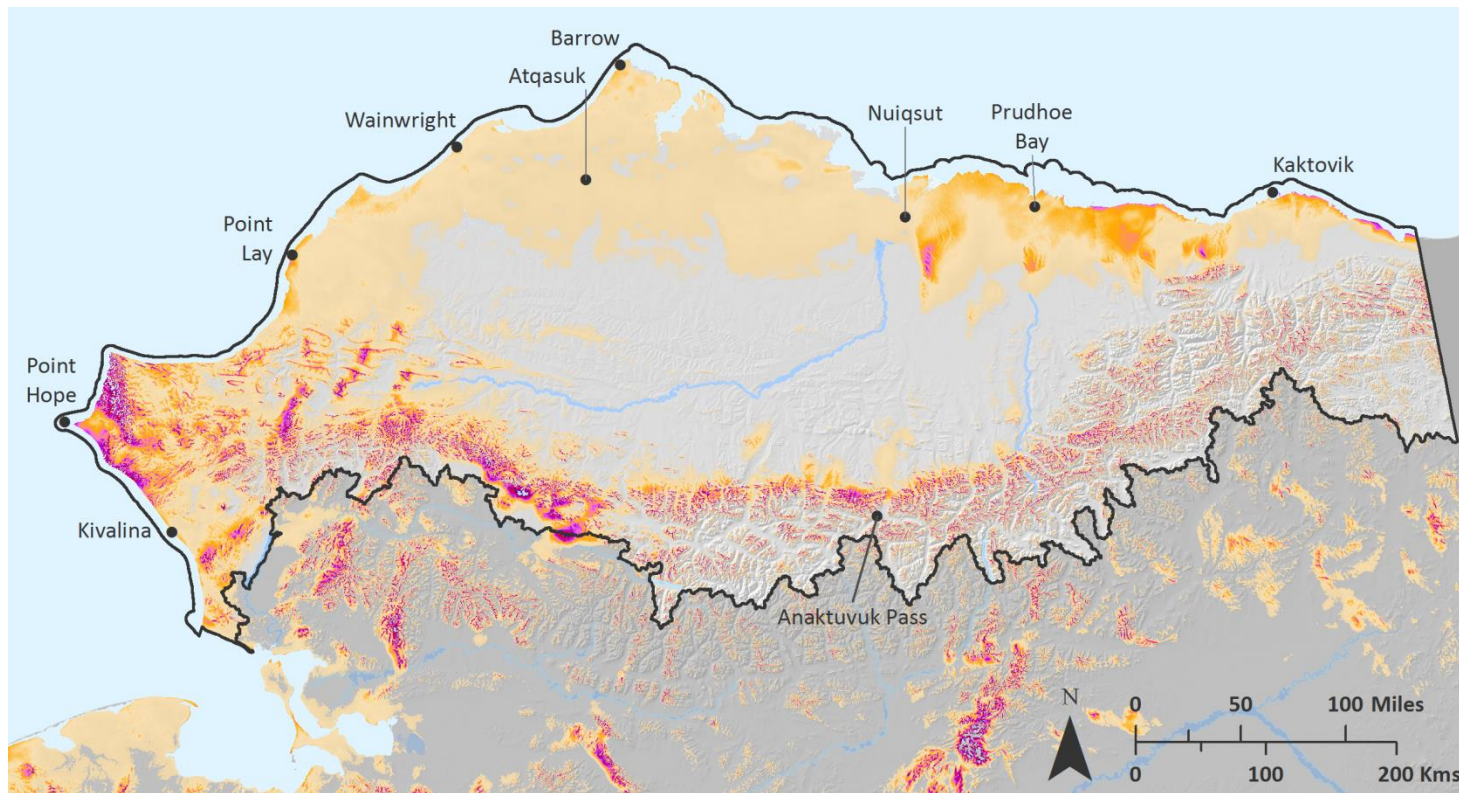
Muskox forage quality in
BSWI RMP



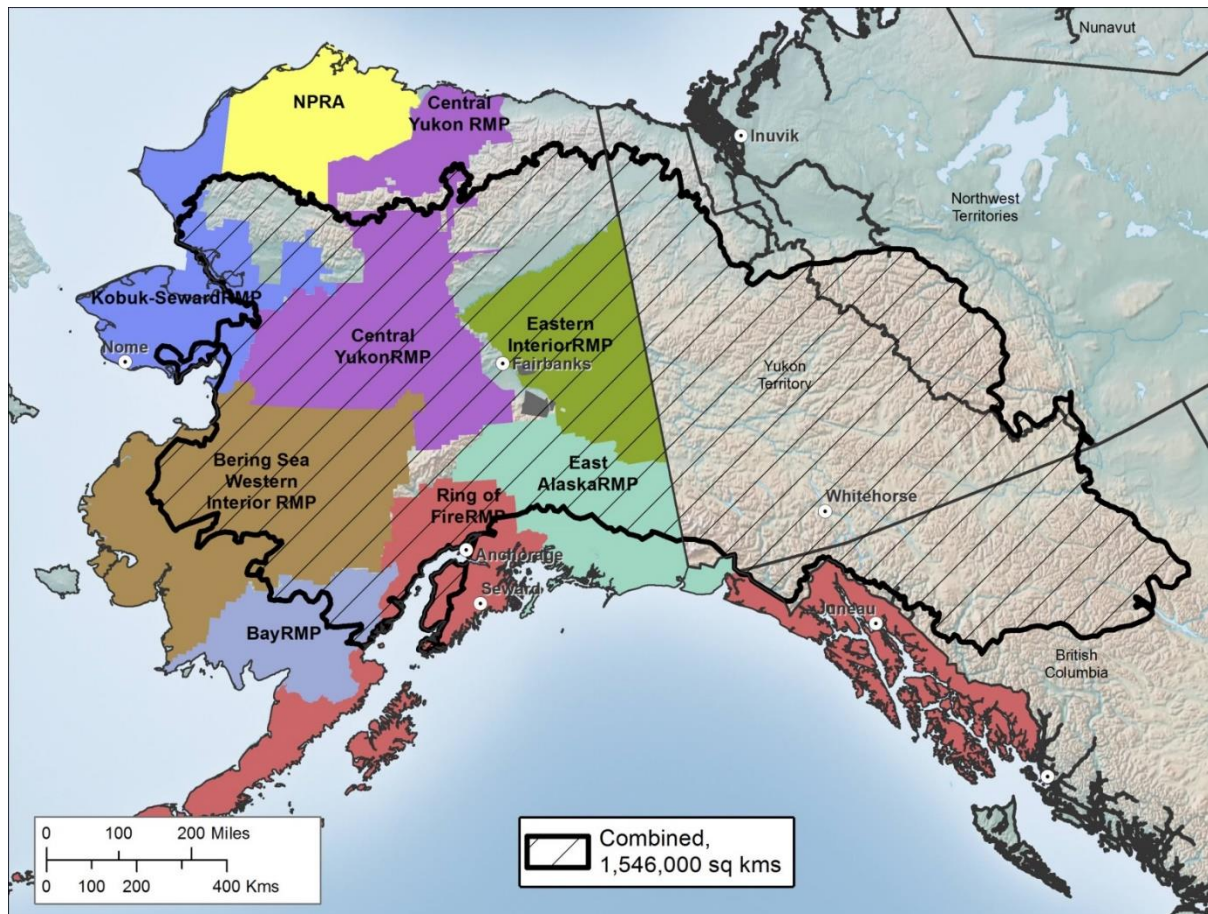
Floodplains distribution
in BSWI RMP

NOS REA and NSSI

Incorporated NSSI development scenario into the North Slope REA



Wind power potential developed for NSSI Scenarios Project



BLM RMPs compared to combined REA / LCC area