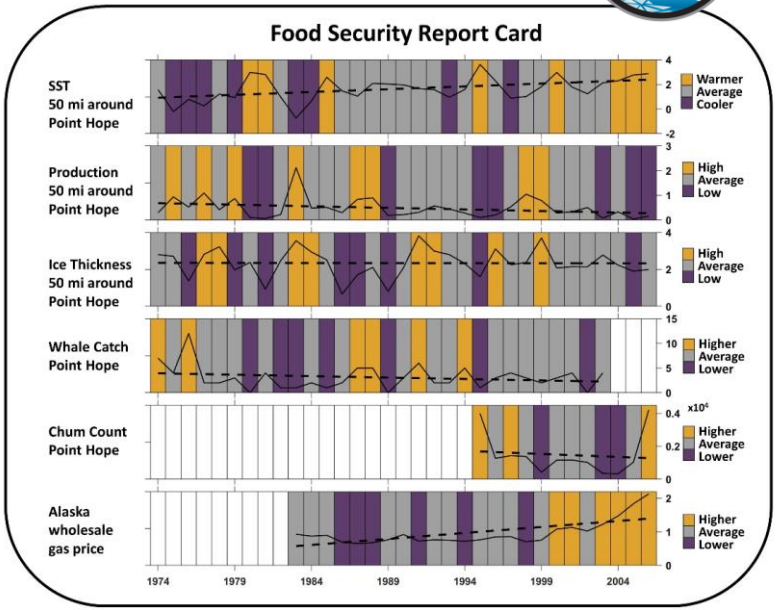
E3SM BCG dynamics and model products relevant to Arctic Stakeholders

Georgina Gibson, University of Alaska Fairbanks | HiLAT / InteRFACE

Can E3SM inform key dimensions of Arctic marine food security?

- Model-derived food security indicators illustrate how model output can provide estimates of a broad suite of variables relevant to food security.
- Accessible presentation of the model's potential utility to rights holders and stakeholders.
- Model products are a starting point for engaging community members in an iterative discussion.

Grand Challenge: Models not at scale for short term decision making.



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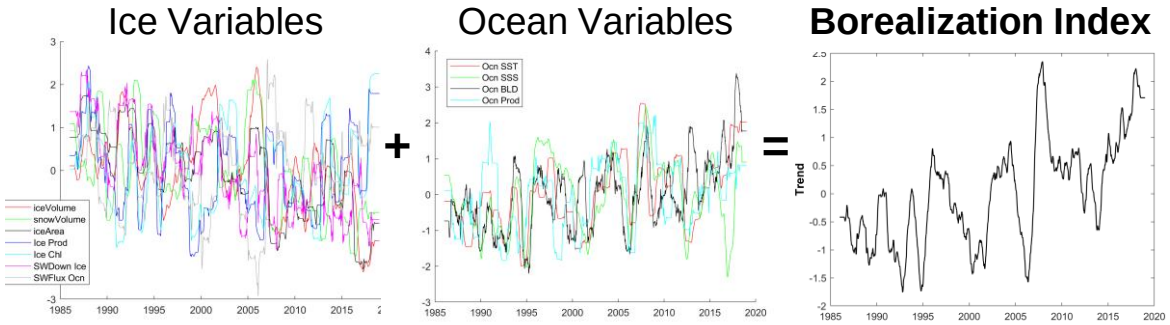
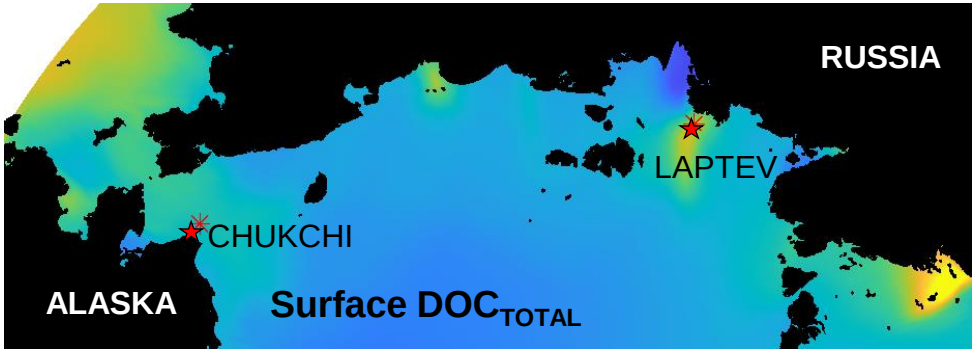
Exploring E3SMs ability to contribute fisheries relevant information



Using multi factor analysis to reduce multiple ice and ocean variables into one common trend to represent a borealization index for Arctic Seas.

High Latitude bio-geo-chemical modeling



- E3SM-v2.1
- Arctic refined: 10 to 60 km resolution
- g-case simulation (CORE2 Forcing)
- BGC implemented in MARBL
- River inputs from active MOSART

Grand Challenge: Quantification of BGC model uncertainty.