



NORDLANDSFORSKNING
NORDLAND RESEARCH INSTITUTE

Arctic maritime activities in changing climatic and market conditions: Impacts on local community security and adaptation

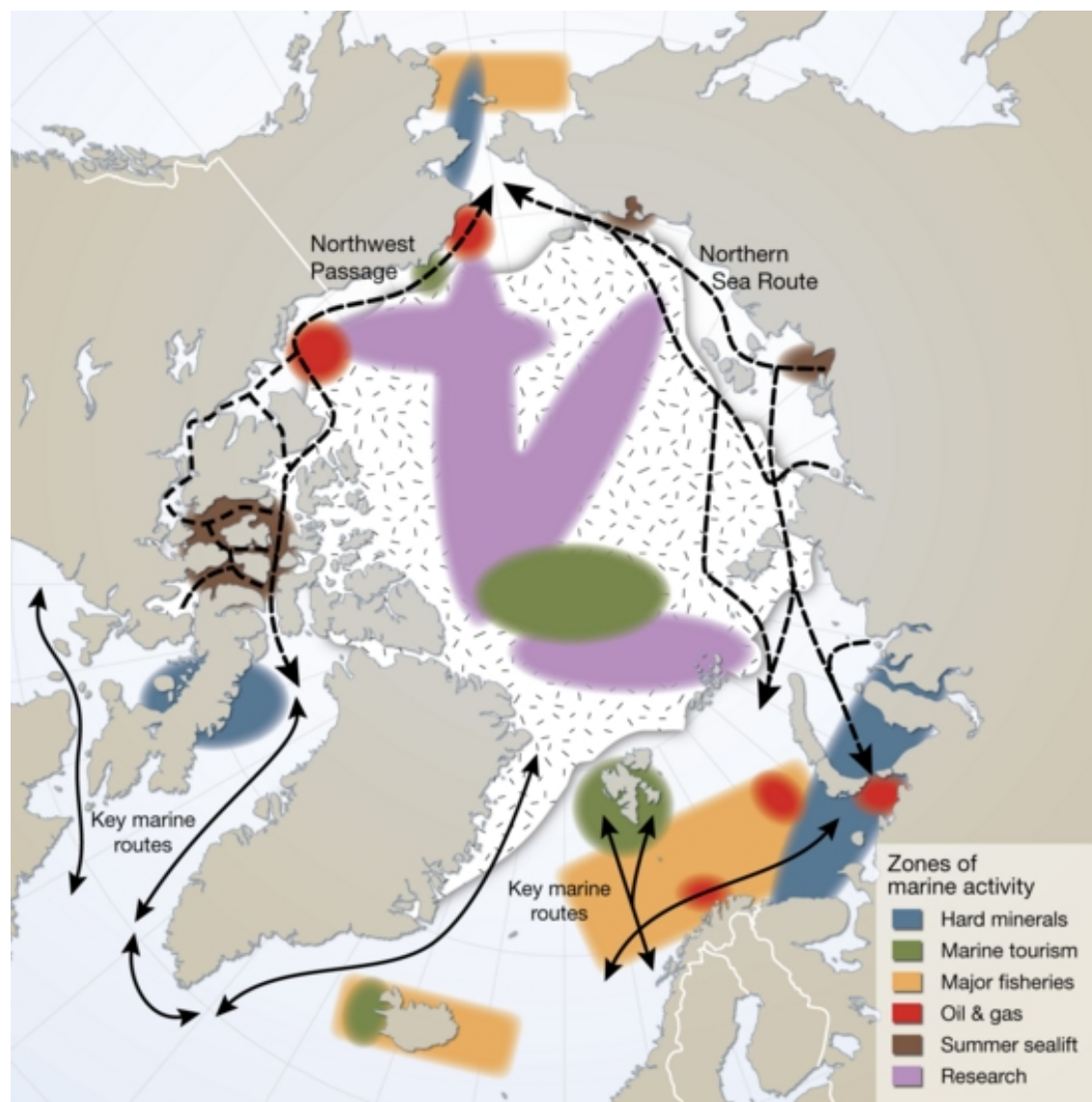
Julia Olsen and Grete K. Hovelsrud

ShipArc 2015: “Safe and Sustainable Shipping in a Changing Arctic Environment”

25-27 August

Malmö





CAFF. 2010. http://www.grida.no/graphicslib/detail/current-marine-shipment-uses-in-the-arctic_afa3





First round-trip in NEP



(Photo: Oyoyoy)





Effects of increased shipping activities

Shipping activity in general	Oil spills, waste water, rubbish, development of harbors and other infrastructure, ice breaker activity
Cruise tourism	Increased number of visitors to heritage sites
	Increased number of boats and helicopter landings
	Infrastructure on shore
	On-site accidents
	Underwater equipment, platforms, pipes, & ports
	Bottom trawling
Shipping associated with prospecting and exploration	New infrastructure
Fisheries and military activity	Operations

AMAP/CAFF/SDWG 2013





Positiv impacts

- Improved access to goods and services, including medical
- Increased awareness about heritage in the wider society
- Economic, employment and income opportunities
- Stimulus to research and financial support
- Funding for cultural resource surveys
- New opportunities for fishing, market for fish
- Discovery of underwater sites
- Infrastructure





Negative impacts from increased shipping activities

Shipping activity in general	Impact on archeological sites Demographic and cultural change (due to workforce influx) Social and health issues Loss of natural resource base and traditional knowledge
Cruise tourism	Impact on surface, increased erosion, vandalism, amateur surveys, etc. Destruction of sites and objects Loss and damage of heritage sites and historic properties on land and underwater
Shipping associated with prospecting and exploration	Direct impact on shoreline and underwater sites
Fishing activity	Disruption of Coastal fisheries by large/scale fisheries
Military activity	Restriction on local use

AMAP/CAFF/SDWG 2013





Vaygach Island



Wikipedia.org



ostrov.info





Safe navigation requires

- Land-based infrastructure including search-and-rescue facilities
- The availability of reliable maps and charts
- Traffic control
- Communication capacity
- Forecast of daily sea-ice variability
- Forecast of weather conditions
- Features of the delivery system (with Just-In-Time system ships are being pressed for time to deliver)
- **Involvement of local communities in SAR activities**





IMO Criteria for Sensitive Sea Areas

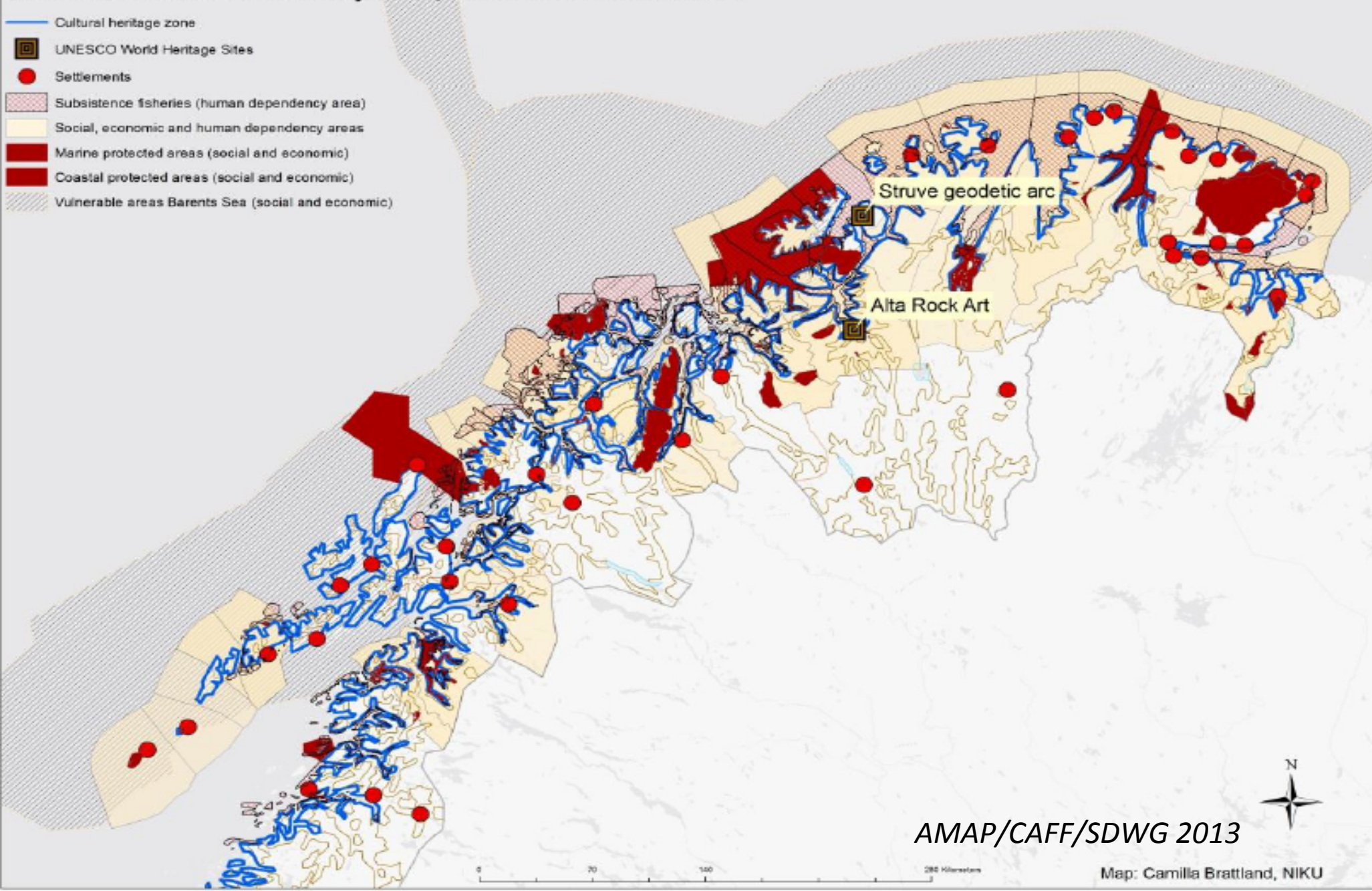
- **Social and economic dependency:** use of living marine resources of particular importance, and dependence on access
- **Human dependency:** Particular importance for traditional subsistence, food production, cultural resources
- **Cultural heritage:** presence of significant historical or archaeological sites





Sensitive Sea Areas in Arctic Norway. Social, cultural and economic criteria.

- Cultural heritage zone
- UNESCO World Heritage Sites
- Settlements
- Subsistence fisheries (human dependency area)
- Social, economic and human dependency areas
- Marine protected areas (social and economic)
- Coastal protected areas (social and economic)
- Vulnerable areas Barents Sea (social and economic)



AMAP/CAFF/SDWG 2013

Map: Camilla Brattland, NIKU

IMO Polar Code

The Polar Code ratification is due to 2017

- Adoption of the safety section (November 2014)
- Adoption of the environmental component (May 2015)



<http://www.motorship.com>



Co-management as an analytical approach

- What is co-management and why is it important here?
- How are coastal communities involved in development of the Polar Code?
- Which communities are particularly dependent on the interaction with the sea and its resources?
- What do we know about traditional use areas and how are these included in regulations and agreements?
- Are there particular concerns for indigenous peoples?





References

- AMAP/CAFF/SDWG (2013). Identification of Arctic Marine areas of heightened ecological and cultural significance. Arctic Marine Shipping Assessment (AMSA). Arctic Monitoring and Assessment Programme (AMAP). Oslo: 114.
- Armitage D., Berkes F. and Doubleday N. (2007). Adaptive Co-Management: Collaboration, Learning, and Multi-Level Governance. Vancouver, Toronto, UBC Press.
- Brigham L. (2014) The developing international maritime organization polar code. In Heininen, L., Exner-Pirot H. and Plouffe J. (eds.). (2014). Arctic Yearbook 2014. Akureyri, Iceland: Northern Research Forum. Available from <http://www.arcticyearbook.com>
- Davydov, A. N. and G. V. Mikhailova (2011). "Climate change and consequences in the Arctic: perception of climate change by the Nenets people of Vaigach Island." Global Health Action 4: 10.3402/gha.v3404i3400.8436.
- Farré, A., S. R. Stephenson, L. Chen, M. Czub, Y. Dai, D. Demchev, Y. Efimov, P. Graczyk, H. Grythe, K. Keil, N. Kivekäs, N. Kumar, N. Liu, I. Matelenok, M. Myksovoll, D. O'Leary, J. Olsen, S. Pavithran.A.P, E. Petersen, A. Raspotnik, I. Ryzhov, J. Solski, L. Suo, C. Troein, V. Valeeva, J. van Rijckevorsel and J. Wighting (2014). "Commercial Arctic shipping through the Northeast Passage: routes, resources, governance, technology, and infrastructure." Polar Geography 37(4): 298-324.
- IMO (2015) Shipping in polar waters. Development of an international code of safety for ships operating in polar waters (Polar Code). Available from <http://www.imo.org/en/MediaCentre/HotTopics/polar/Pages/default.aspx>
- McGwin K. (2015). Full Polar Code in place, but gaps remain. The Arctic Journal. May 15th, 2015. Available from <http://pacificenvironment.org/full-polar-code-in-place-but-gaps-remain>
- Mière C. L. and Mazo J. (2013). Arctic opening insecurity and opportunity. London: The International Institute for Strategic Studies, Routledge.
- PAME (2009). Arctic Marine Shipping Assessment 2009 Report. Arctic Council: 194.





Thank you for listening!

Julia Olsen jol@nforsk.no

Grete K. Hovelsrud gho@uin.no

