



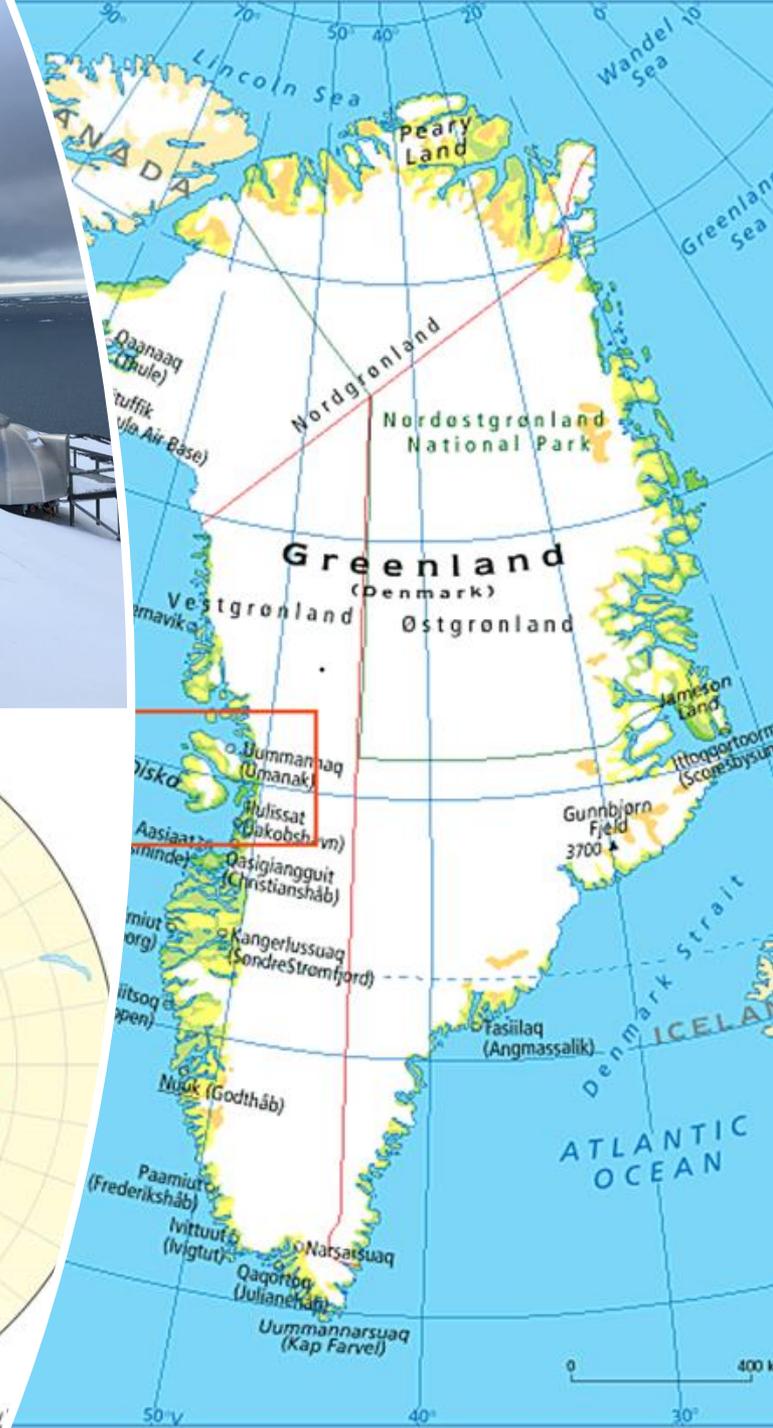
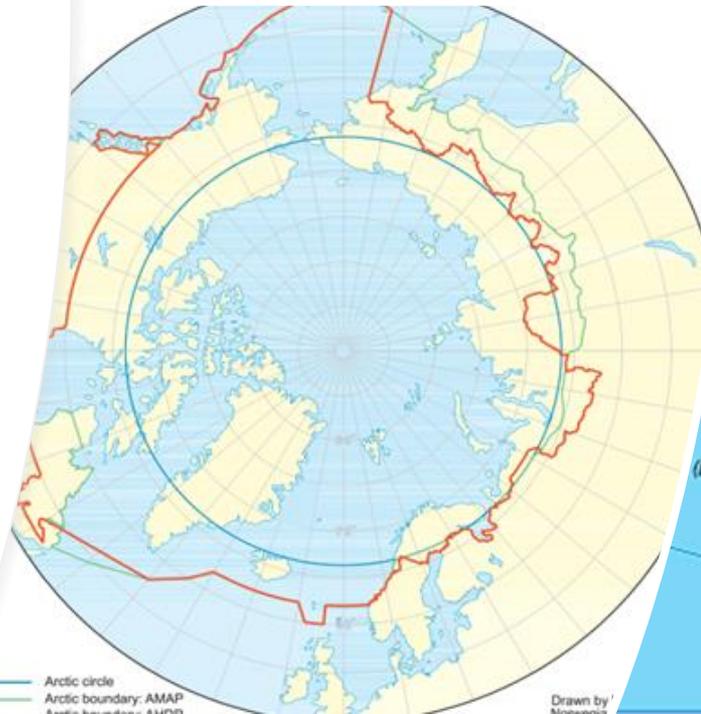
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May 16, 2022

**A changing landscape for Arctic social sciences:**  
highlights and reflections from research on climate  
change and socio-economic development in  
Greenlandic coastal communities



# Overview

- A changing landscape for Arctic Social Sciences and Humanities and IASSA
- Highlights and reflections from fieldwork in Greenland
  - Disko Bay
  - South Greenland
- Looking ahead – research priorities





## A new era for Arctic Social Sciences



### 3RD INTERNATIONAL CONFERENCE ON ARCTIC RESEARCH PLANNING

- Inclusion of Arctic Social Sciences in the 2007-2008 IPY
  - IPY legacy – a human face on Arctic science
  - Broader inclusion of all sciences
  - Helped facilitate an increase in indigenous participation
  - Integration of local and traditional knowledge in research
- Role of ICARP II and III processes
- IPY created the momentum to advance collaborative international research in social/human sciences to a new level.



# Navigating a changing landscape: role of IASSA and ICASS

- Principles and guidelines for conducting ethical research in the Arctic
- Participation of northern communities and Indigenous Peoples in research
- Co-production and co-design
- Increased societal value of research
- Increased collaboration and joint engagement between several key organizations and institutions, e.g. IASC, UArctic, APECS

# Reflections from two case studies in coastal communities in Greenland

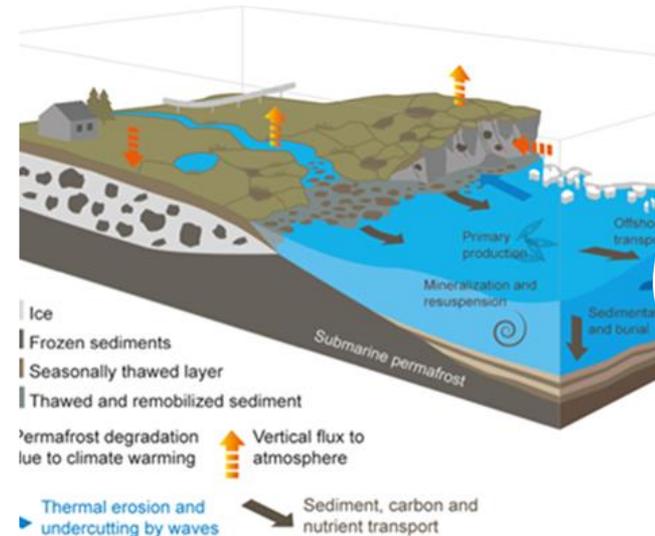
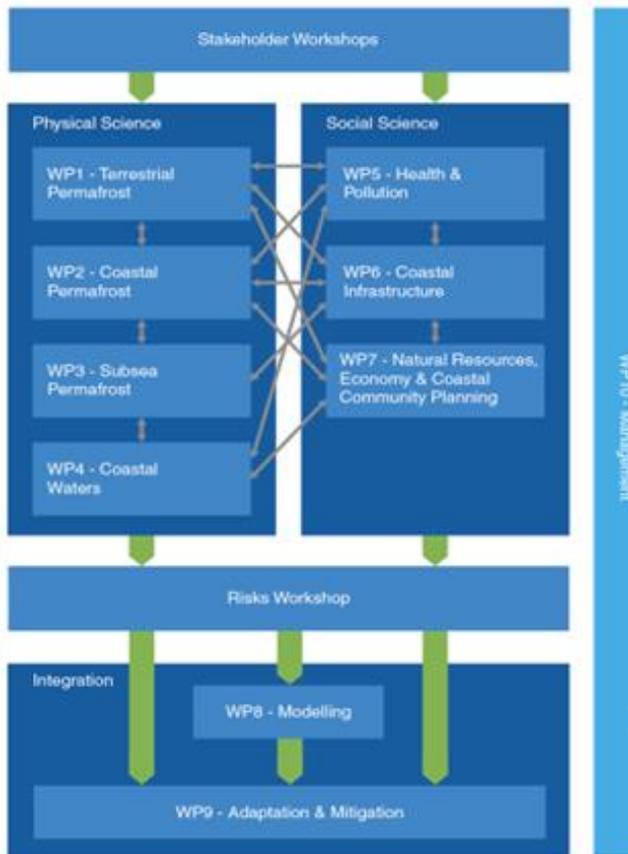
Complex changes and multiple stressors  
Interdisciplinary research  
and in co-production with locals

- Thawing permafrost, key risks, and strategies for adaptation in Disko Bay, West Greenland
  - a case study within the broader EU H2020 project, Nunataryuk
- Socioeconomic development, global change impacts, and changing balance of power
  - a case study within the broader EU H2020 project, JustNorth



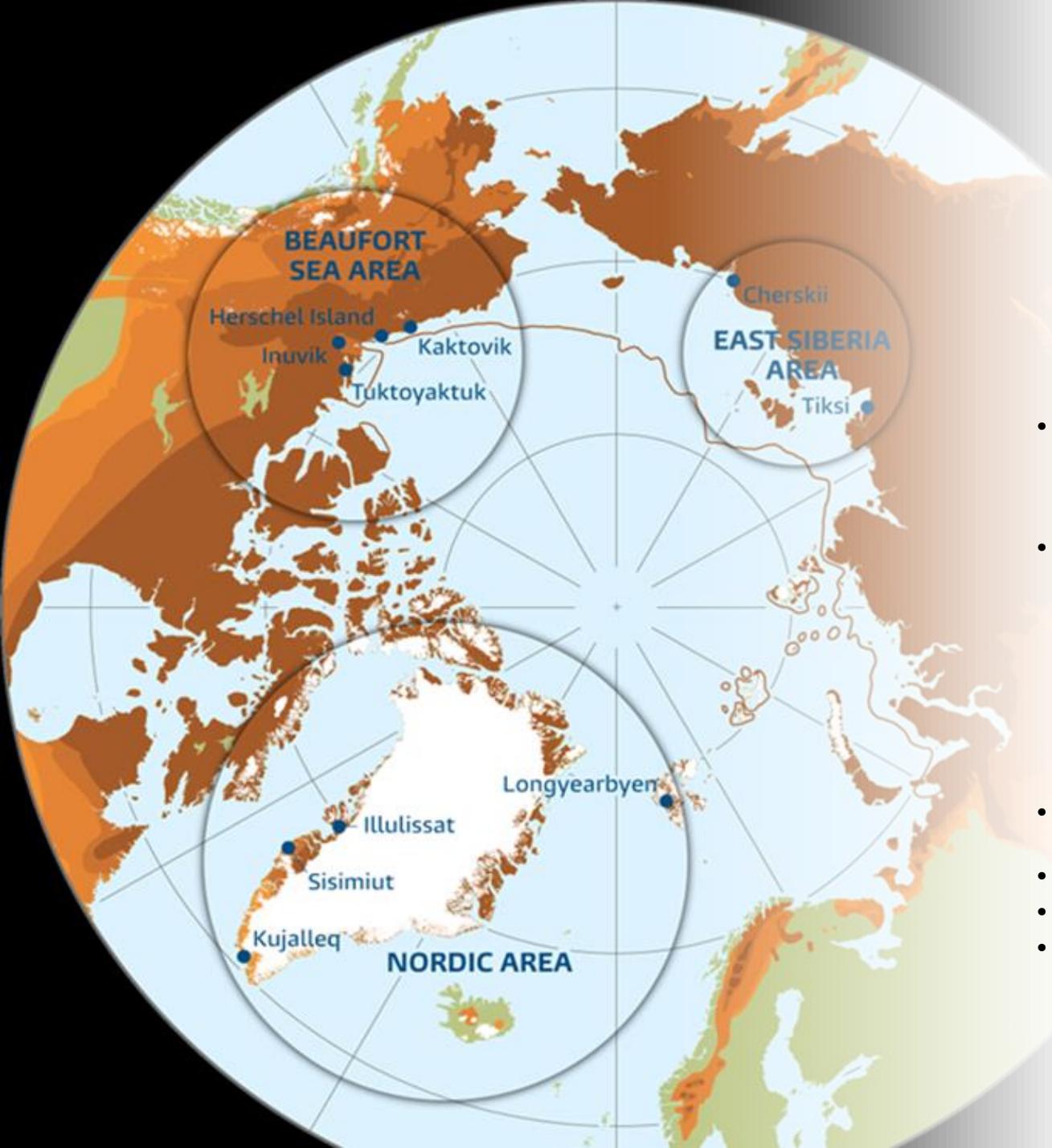
# Permafrost thaw in Disko Bay, West Greenland

(a focal area within Nunataryuk)



- Project title: Nunataryuk.
  - Funding: EU H2020.
  - Period: 2017-2023
  - Led by Alfred Wegener Institute
- Overall project objectives: To determine the impacts of thawing permafrost on the global climate and on humans in the Arctic and to develop targeted and co-designed adaptation and mitigation strategies.

# Case study: Ilulissat, Disko Bay



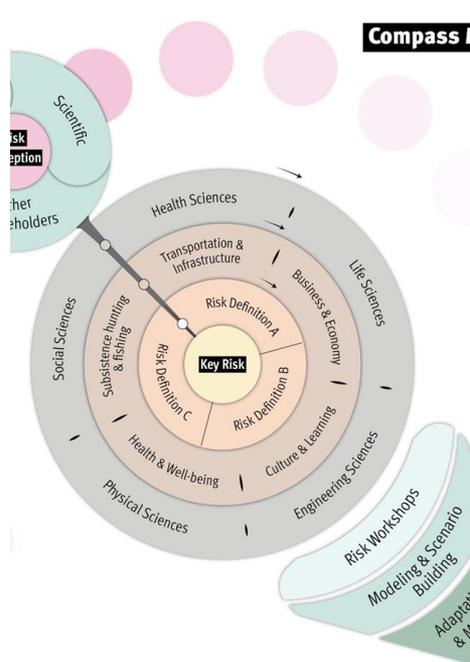
- Three focal areas located in Beaufort Sea Area, Greenland and Svalbard, and East Siberia Area.
- Assessing the impact of permafrost thaw on the coastal system and its effect on the availability and accessibility of resources, the stability of infrastructure, the growth of potential new economic activities, and pollution and health.
- Co-production of knowledge with local stakeholders
- Risk analysis
- Development of indicators
- Development of co-designed adaptation strategies



## Field based research, Ilulissat, Disko Bay

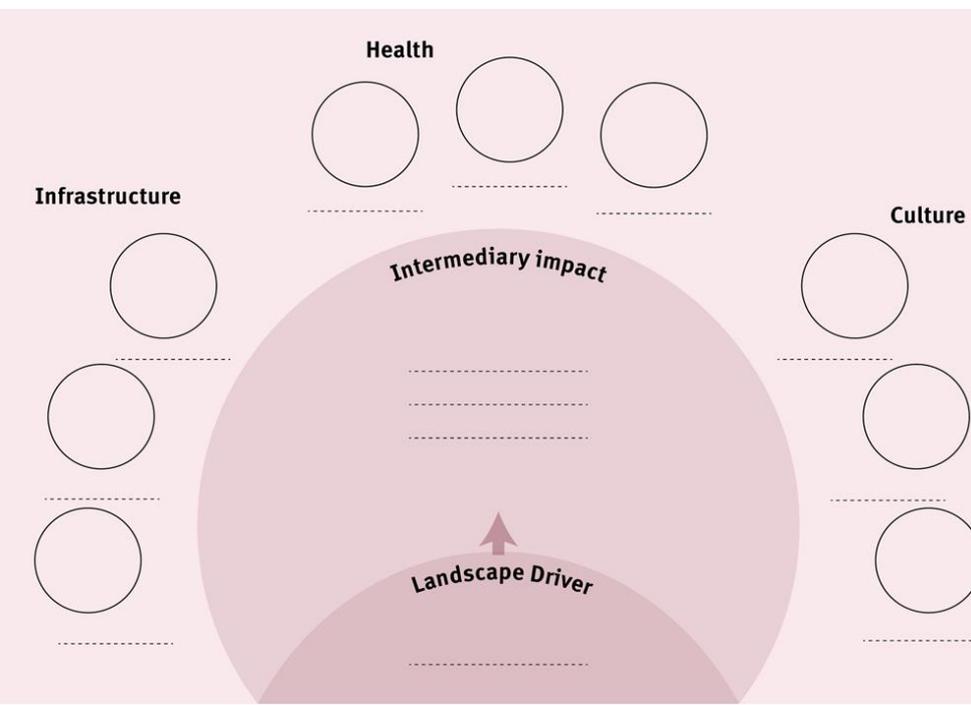
- Co-production
- Community/ stakeholder consultations
- Open-ended and semi-structured interviews
- Focus groups
- Surveys

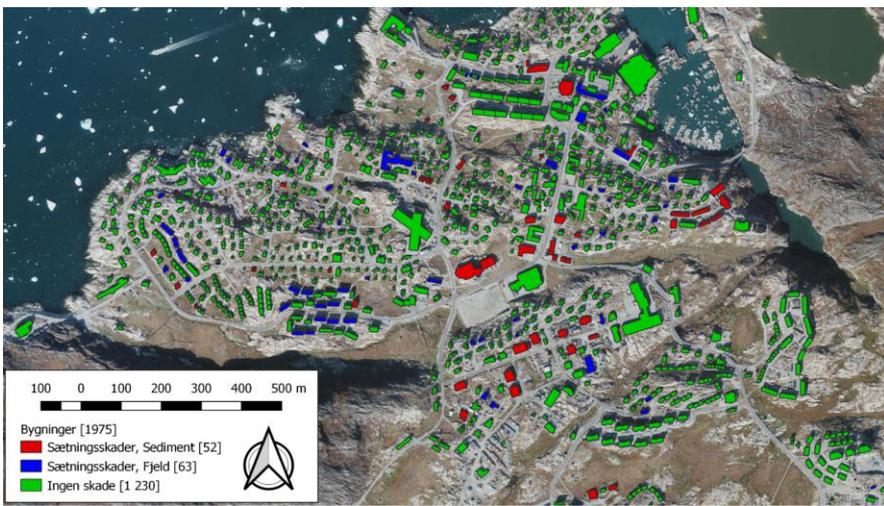




# Analysing impacts and risks from permafrost thaw, and developing indicators

- **Rationale**
  - Managing and reducing risks enables us to reach a higher level of sustainability with higher levels of resilience.
- **Identifying key risks from permafrost thaw**
  - What are possible adaptation and mitigation strategies to address risks?
  - Developing Arctic social and bio-physical indicators of risks to permafrost thaw
    - Having in place an easily accessible system for monitoring human and bio-physical changes contributes to adaptation, lower risk levels, and greater sustainability.





- Societal impacts of permafrost thaw
  - Key risk domains
    - Risk to health and wellbeing
    - Risk to infrastructure failure
    - Risk to material wellbeing
    - Risk to being in nature (including recreational and subsistence)
    - Risk to cultural heritage
    - Risk to food security
    - etc

# A new airport construction site in Ilulissat

- An example of the impacts of permafrost thaw on critical infrastructure
  - Multiple challenges
  - Climate impacts cannot be studied in isolation of other factors



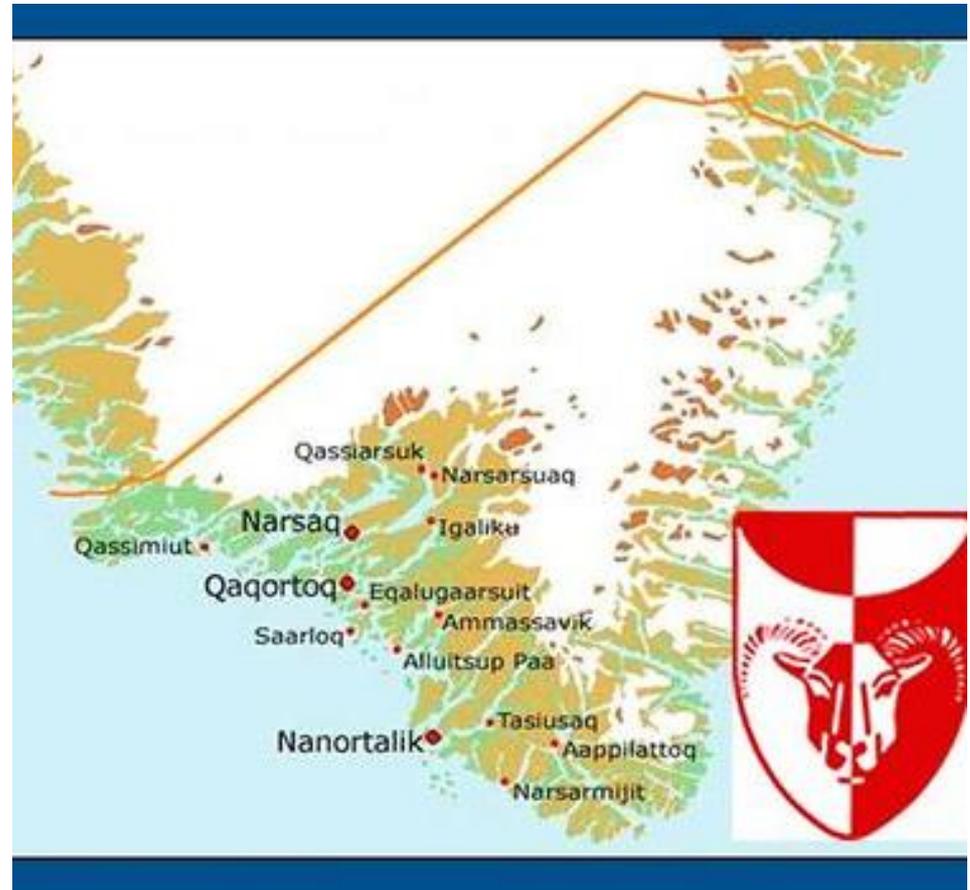
# Tourism in Ilulissat

- Climate impacts, risks, and multiple stressors.
- Next steps: Developing indicators in co-production with locals



**Case Study:** Socioeconomic development, self determination, global change impacts in South Greenland, municipality of Kujalleq

- Project title: JustNorth
  - EU H2020, led by University of Uppsala
- Overall project objectives:
  - Assessing the viability of economic development of the Arctic through a sustainable justice perspective
  - Gaining insights on the positive and negative impacts, risks and benefits of key economic activities
  - Potential for economic development this is sustainable and just
  - Investigating how to reduce inequalities between Arctic stakeholders



# Nanortalik, Narsaq, and Qaqortoq – Municipality of Kujalleq South Greenland

- Seeking solutions to weak internal economic structures, declining or stagnating local economies
- Economic base: small-scale fishing, tourism, agriculture, extractive industry
- Global impacts and socio-economic challenges



## Working with local stakeholders in Nanortalik and Narsaq

- Local co-production
- Community meeting
- One-on-one interviews
- Interviews, semi-structured and open-ended
- Focus groups
- Questionnaire



# Framework: Value Indicators

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Eco-System related

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Substantive

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SDGs related

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Procedural



# A multitude of central issues in South Greenland

## - human development and complex challenges

- School system, and language challenge
- Gaps in human and fiscal resources
- Housing shortage; quality of housing
- Youth outmigration; declining and aging population
- Availability of stable employment
- Challenges of attracting newcomers
- Lack of critical infrastructure
- Accessibility and networks
- Changes to municipality structure, governance, justice, and balance of power
- Climate change – sea ice, storms, more unpredictable weather



# Local fisheries in South Greenland

- The central role of fisheries
- Value creation
- Innovative solutions



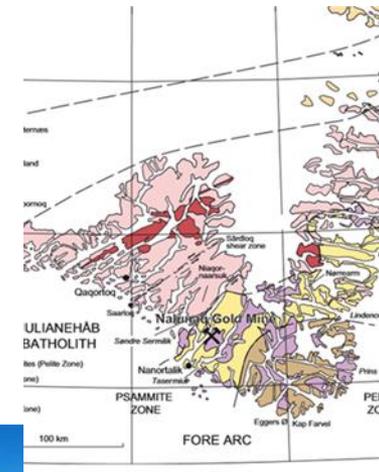
# Extractive Industry in South Greenland –

minerals as a source of revenue to finance self-government.  
Impacts for local livelihoods and sustainable economic futures.

Narsaq – Banned rare earth and uranium mining

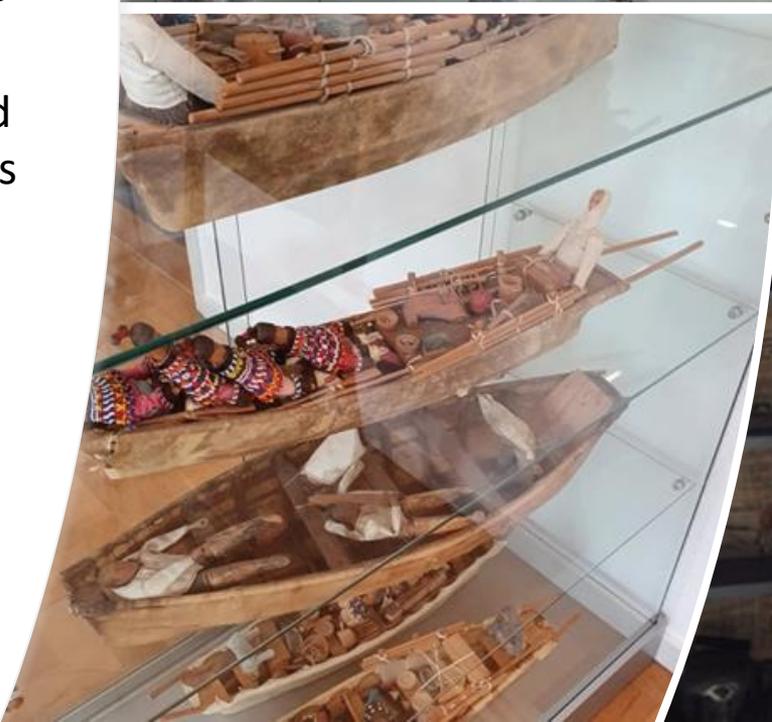


Nanortalik – Gold mining



## Local tourism in South Greenland

- An alternative or co-existence with extractive industry
- Keeping the value locally
- Infrastructure and climate challenges





## Agriculture, horticulture, sheep and cattle farming in South Greenland

- Milder climate and a growing agricultural sector
  - An alternative to extractive industry



# Summing up

- Arctic Social Sciences have an important and growing role in Arctic science.
- The IPY helped put a human face on Arctic science and created a momentum for Arctic Social Sciences.
- Over the past decades indigenous people and local Arctic residents are more firmly onboard research projects that affect their lives.
- Complexity of challenges facing local communities is increasing and puts an emphasis on the importance of interdisciplinary research and co-production of knowledge.
- Multiple stressors – climate cannot be studied in isolation of other factors.



Thank You



NUNATARYUK  
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