

ArcticHubs – Global drivers, local consequences:

Tools for global change adaptation and sustainable development of industrial and cultural Arctic “hubs” (2020-2024)

Call: H2020-LC-CLA-2018-2019-2020 (Building a low-carbon, climate resilient future: climate action in support of the Paris Agreement)

Topic: LC-CLA-07-2019 (The changing cryosphere: uncertainties, risks and opportunities),
Type of action: **RIA**

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ACAF webinar, Faroe Islands & Greenland
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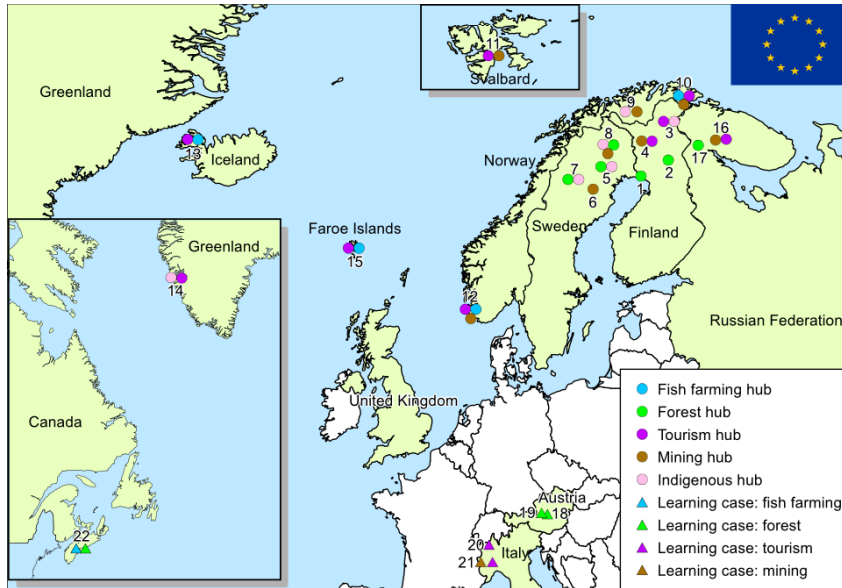


This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 869580.



ArcticHubs consortium

22 members in 11 countries, 6 M€ (+ 200 000€ Russia)



Studied industries:

- Forestry
- Tourism
- Mining
- Fish farming

Also impacts on culture and livelihoods of indigenous peoples are studied



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ArcticHubs and climate change adaptation

The project develops tools to increase **the resilience of Arctic communities and livelihoods** in context of climate change and other global pressures by **enhancing regional planning for the sustainable use of natural resources**

Three core tools are being developed:

- **Public participatory** geographical information systems (PPGIS),
- Guidelines for '**social license to operate**',
- **Building of future scenarios** to be applied in the Arctic in order to e.g. predict effects of climate change on local livelihoods



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ArcticHubs - Forestry

- **Largest bioproduct mill in northern hemisphere** will be build in Kemi → increase in wood use →

Challenges for multiple land uses in Lapland:

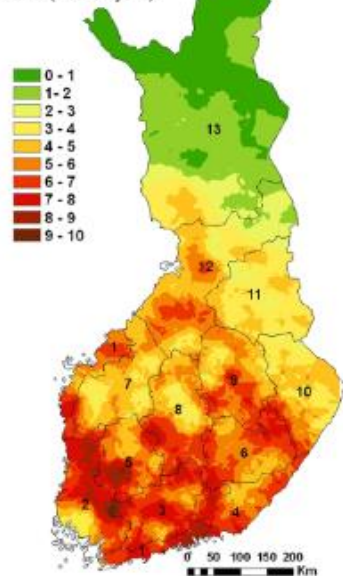
- **Nature based tourism** boomed in past decades
- **Reindeer herding** and indigenous culture



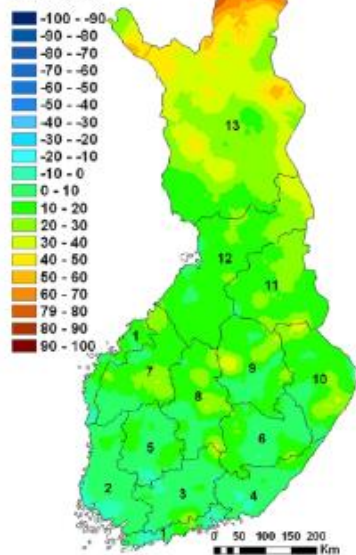
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ArcticHubs - Forestry

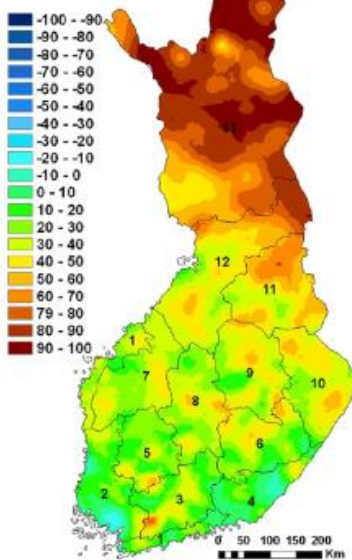
Current growth
Total ($\text{m}^3 \text{ha}^{-1} \text{yr}^{-1}$)



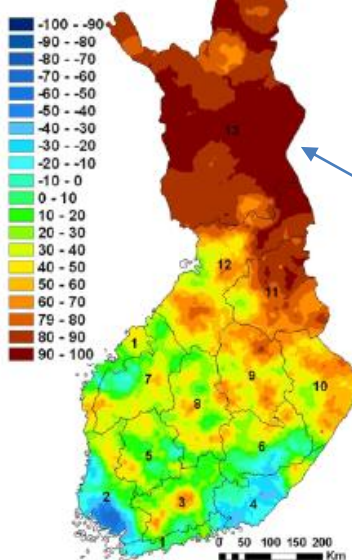
Growth change 1991-2020
total (%)



Growth change 2021-2050
total (%)



Growth change 2070-2099
total (%)



100% increase in
forest growth

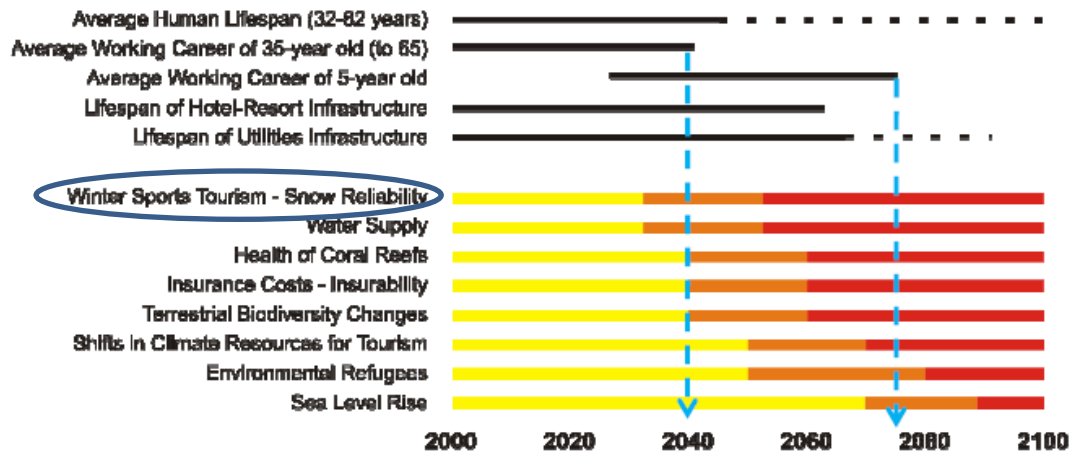


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Kellomäki et al. 2005: Adaptation of forest ecosystems, forests and forestry to climate change. FINADAPT. Working Paper 4, Finnish Environment Institute.

ArcticHubs - Tourism

Time Horizons for Adaptation



UNWTO 2008: Climate Change and Tourism – Responding to Global Challenges



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Future climate issues of tourism in the Arctic will be evaluated in ArcticHubs project

- *In the short term:*
 - Recovery of Covid-19; domestic and proximity tourism
 - Emphasis on nature
 - Snow reliability in the north as a competitive advantage
 - Lack of snow in coastal areas and southern parts of the area
- *In the long term:*
 - Adaptation becomes more important and is intertwined with mitigation measures
 - New products, proximity tourism, muscular activities
 - Land-based travelling

ArcticHubs - Mining

- Carbon-neutral society needs **rare metals** in energy production (windmills, solar panels) and electrification of traffic
 - European Union's Green Deal → Europe is dependent on import of critical raw materials like antimony, cobalt and lithium
 - In the European North some of the metals have been and may be found. This may increase mineral exploration and mining in the North.
- Mining specialists in Norway talk about climate change as (1) **opening up new possibilities** like ice free transport of minerals through the Northern sea route to Asian markets, but also (2) as **a driver for decarbonising and energy transition**, and (3) finally as **a negative effect on indigenous lifestyle**.
- Analysis for the national mining strategies in Finland, Sweden and Norway: no direct mentions of climate change in any of the strategies.



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Climate change issues in fish farming and tourism in the Faroe Islands

Fish farming

- Covid-19:
 - Changes in market demand of farmed fish → Resulted in more work locally, but lower profits
- Long-term challenges:
 - Distance to markets (export footprint)
 - Sea temperature, acidification.
 - Consumer perceptions of aquaculture

Tourism

- Covid-19:
 - Short distance (local) tourism vs foreign tourists
- Cruise tourism
 - Mass tourism or high-end/elite/luxury tourism
- Long-term challenges:
 - Distance to location (travel footprint)
 - Sustainability “image/brand”



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Thank You!



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