

Project “PCCH-Arctic – Polar Climate and Cultural Heritage – Preservation and Restoration Management”: problemstillinger med kulturminner i klimaendringer, studieobjekter av kulturminner in Longyearbyen og Ny-Ålesund

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Offentlig foredrag fra PCCH-Arctic prosjektet "Sammendrag om det PCCH-Arctic prosjektet" Svalbard Museum, onsdag 11. september 2024, Longyearbyen



Study location



Reference: <https://commons.wikimedia.org/wiki/File:Norway-Svalbard.svg>



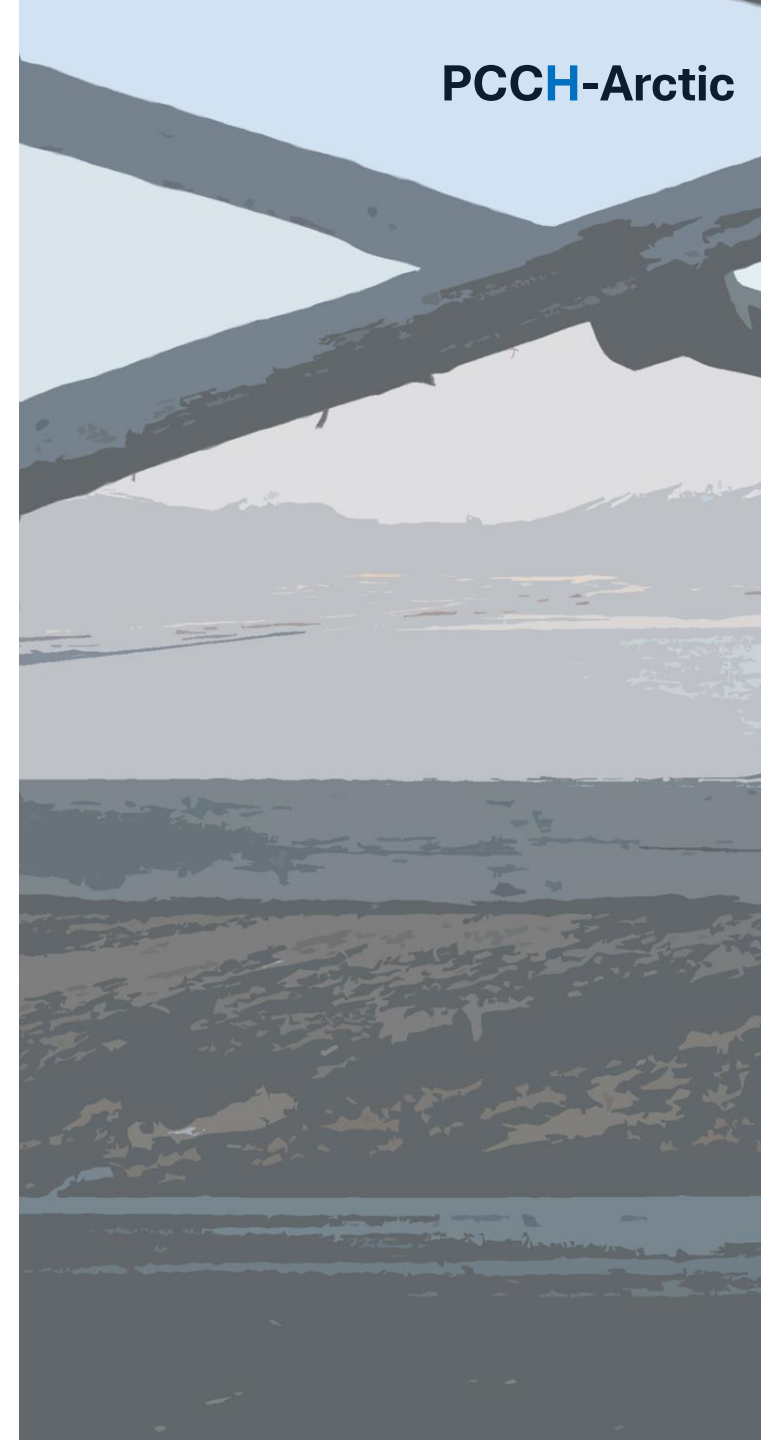
Reference: <https://toposvalbard.npolar.no/>

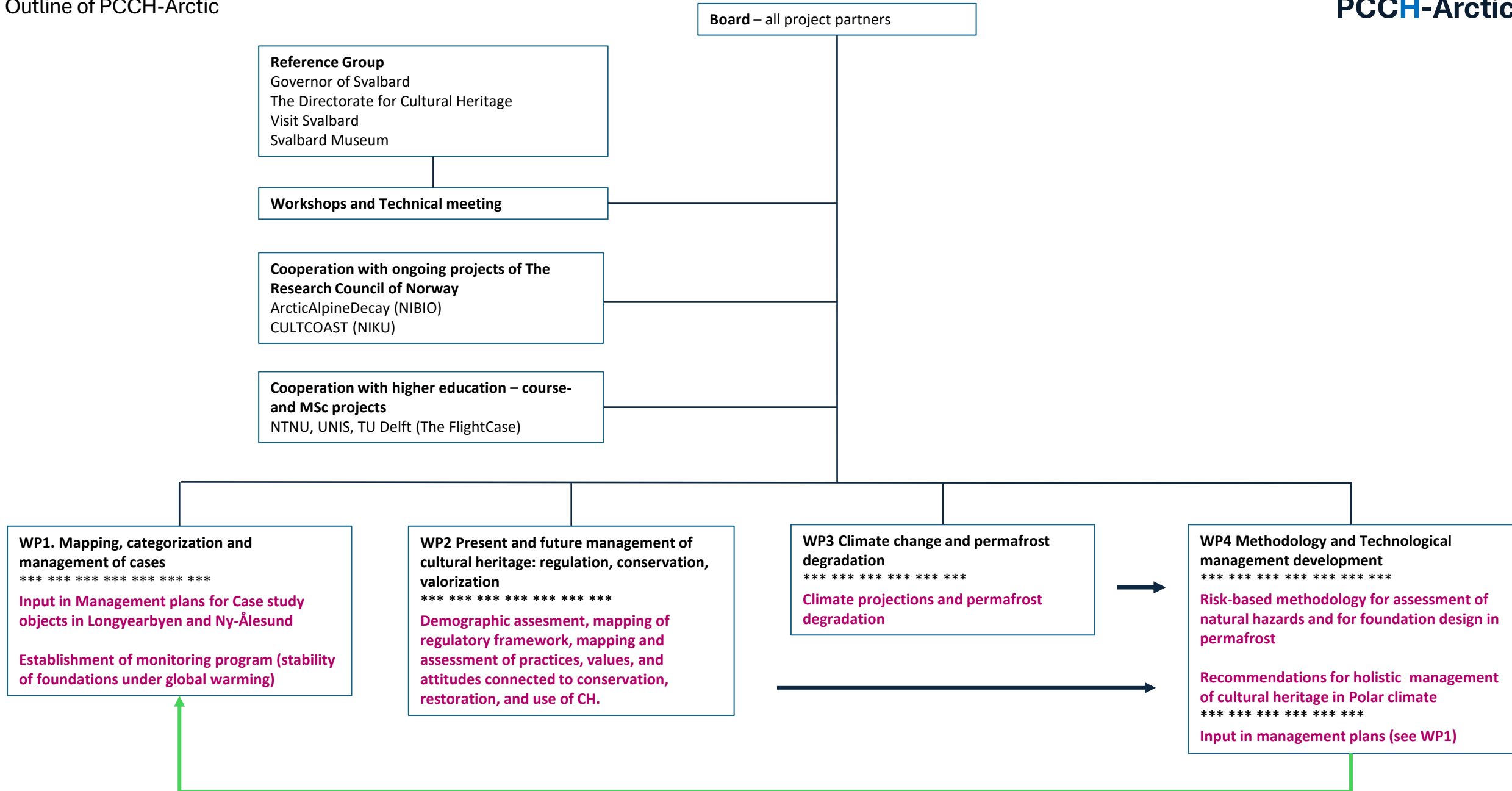


Permafrost in Northern Hemisphere. Reference: Circumpolar Active-Layer Permafrost System (CAPS), version 1.0. International Permafrost Association, 1998

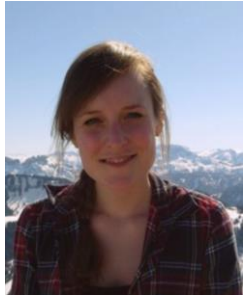
PCCH-Arctic – Polar Climate and Cultural Heritage – Preservation and Restoration Management

- **Objectives:** to create a knowledge base for sustainable safeguarding and future use of cultural heritage in the Arctic in conditions of changing climate and demography
- **Project period:** 2021–2024
- **Funding:** The Research Council of Norway and User Partners, 10 MNOK (Cash) + 1.08 MNOK (InKind), i.e. ~1 MEuro.
- **Project type:** collaboration project to meet challenges in society and business (KSP)
- **User Partners:** Longyearbyen Lokalstyre, Store Norske Spitsbergen Kulkompani (SNSK) AS and Kings Bay AS
- **Research Partners:** Sintef, The Norwegian Meteorological Institute, UiO, UNIS and UniVie
- **Reference group:** Governor of Svalbard, The Directorate for Cultural Heritage, Visit Svalbard, Svalbard Museum
- **Web-page:** <https://www.sintef.no/prosjekter/2021/pcch-arctic/>
- **Research Council of Norway project number:** 320769, **SINTEF project number:** 102024999





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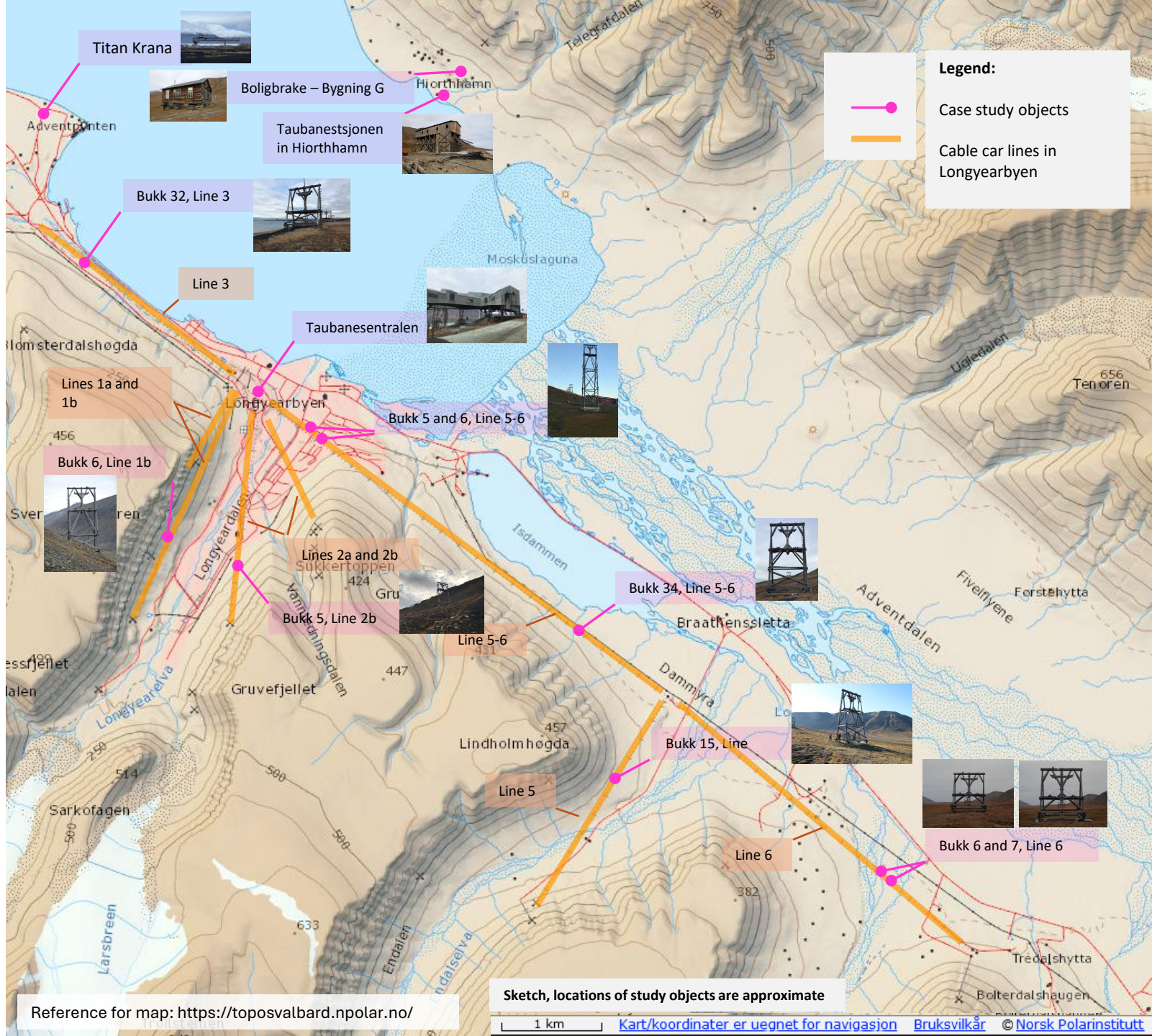
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Case-study objects in Longyearbyen



Case-study objects in Longyearbyen and Hiorthhamn



Taubanesentralen in Longyearbyen



Line 3, Bukk 33



Line 1b, Bukk 6



Line 5-6, Bukk 6



Line 5-6, Bukk 34



Taubanestasjonen in Hiorthhamn



Line 2b, Bukk 5



Line 5, Bukk 16



Line 6, Bukk 7



Titankrana

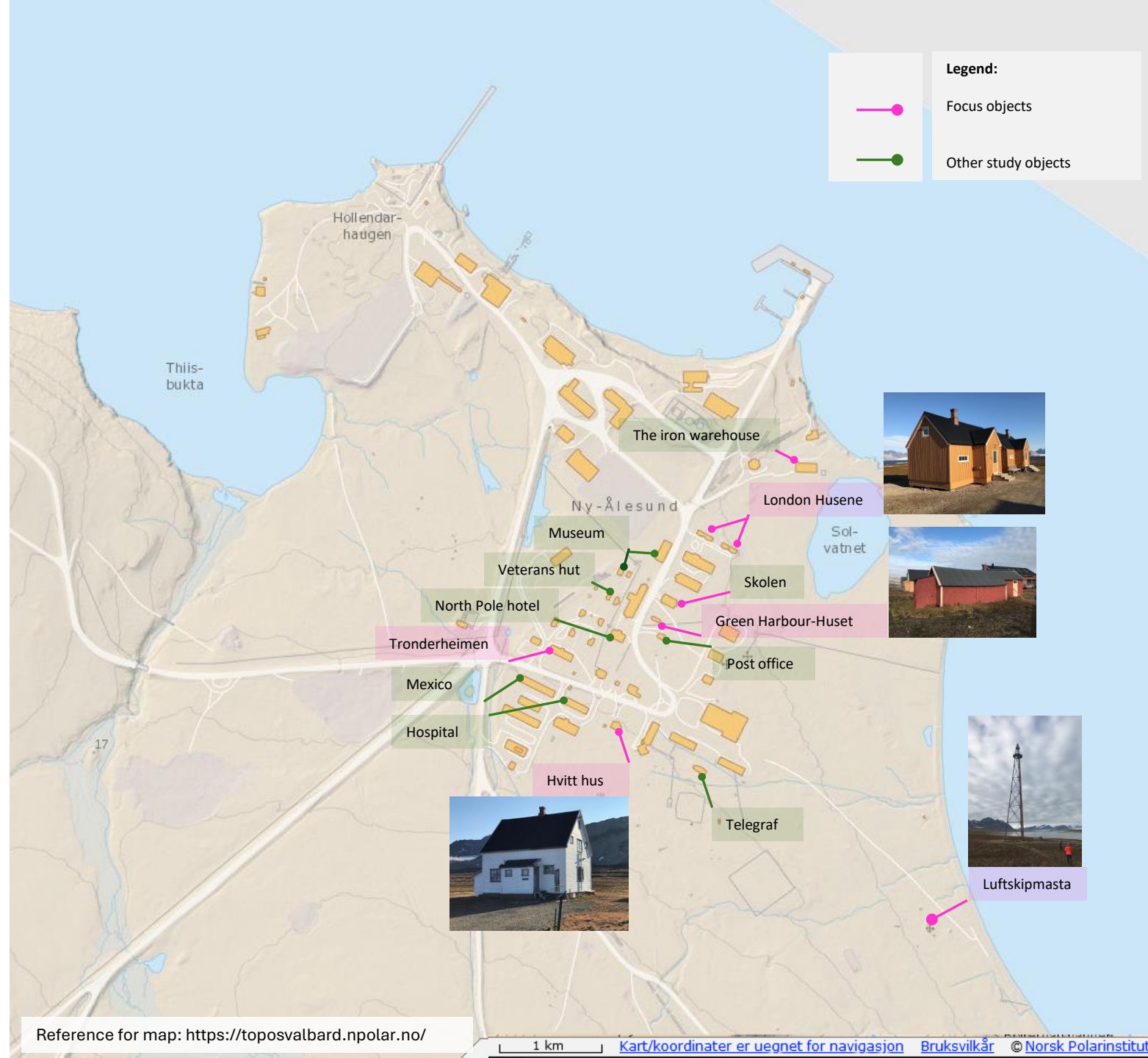


Boligbarakke G in Hiorthhamn



Line 6, Bukk 8

Case-study objects in Ny-Ålesund



Case-study objects in Ny-Ålesund



The Green Harbour house



The London houses



Luftskipsmasta



The White house (Managers house)



Research hypotheses

RH1: Costs of maintaining and restoring cultural heritage objects are quite high and the volume of objects is staggering. Technological (vs authentic solutions) solutions may be applied or developed to both lower the costs and improving the quality of the work.

RH2: Conservation of cultural heritage in the Arctic (objects, monuments, sites) faces a double challenge from the warming climate and increasing human activity. At the same time, cultural heritage can play an important role in sustainable development of the North. **Management plans** that take **socio-cultural** as well **environmental** and **technical** factors into account will make sustainable use of cultural heritage possible.

RH3: Expected climate change impact on cultural heritage in permafrost environments should be accounted via **risk-based management**, which is linked to probabilistic approaches for hazard assessment and geotechnical and foundation design in permafrost.