Knowing wide and deep
WHERE ARE WE?
mapped knowledge & experiences of environments, through observations made by people living, traveling and exploring Svalbard.
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...exploring connections to long-term monitoring.
Sense of Place...
And we see a population with high transience, that have a unique environmental knowledge - because of their sense of place, strong place attachment and use of surrounding environments.
How did we map their knowledge and observations?
Maptionnaire as a tool

Local observations and narratives cover a large geographical area.
INTERVIEWS AND FOCUS GROUPS

Everyone contributed in their own unique way!
SOCIAL MEDIA

-An Important Voice!
WHAT BECOMES CLEAR IS THE INCREDIBLE SYSTEM UNDERSTANDING PEOPLE HAVE OF THEIR SURROUNDING ENVIRONMENTS!
OVER 750 REGISTRATIONS!
Let's travel to the Trapper's cabin built by Oxaas and Ullsfjord
- buildings
- infrastructure
- mold
- nesting sites of arctic skua
All connected to permafrost
Ice and Snow conditions

- Change of seasons
- Iciness
- Stronger meltwater flows
- Weather
ENVIRONMENTS ARE GETTING WETTER

- Change of seasons
- Rain
- Landslides
- Meltwater
Landslides
- Thawing permafrost
- Landscape change
- Weather and precipitation

Longyearbyen
Erosion and When the Coastlines Move

"It is as if the coastline is in constant change."

—resident of Svalbard
When bridges of ice disappear
- changes in sea ice conditions
- change in temperatures
- comparisons over several years
GLACIERS MOLDING LANDSCAPES

- Glacial Changes over Time
- Crevasses
- Meltwater
- Mobility and Safety
MORE POLAR BEARS WITH CUBS...
...and reindeer
Buildings and permafrost

- Buildings collapsing
- Change in landscape
WHAT DID WE LEARN?
Our participants express that long-term monitoring results would help them oversee longer time horizons.

Also, participants reflected on how they are impacted by these changes, in terms of emotions, sense of place, mobility and logistic issues + ethical dimensions.
Mapping and Assessing the Dimensions of Long-Term Scientific Monitoring

Based on metadata analysis using Research in Svalbard, Ny Ålesund Research, and MOSJ and SiOS reports, as well as publications:

- Derived climate parameters: e.g., freeze-thaw events; proportion of rain versus snowfall
- Hydroclimate; snow cover; permafrost; glaciers
- River discharge; snow-cover depth and duration; soil temperature and active-layer depth; glacier mass balance
- Sea ice; physical oceanography
- Sea-ice extent; sea-surface and subsurface temperature
- Biogeochemistry; phytoplankton and zooplankton; benthos, fish; marine mammals and seabirds
- Nutrients; chlorophyll; copepod abundance and composition; polar bear population; little auk population
- Mammals and birds; vegetation; integrated ecosystem state
- Breeding pairs; vegetation productivity; combined multiple indicators
**Possibilities**

*A network of observations*

Comparing these routes can lead to identification of monitoring needs when thinking of movement, safety and well-being.
Identifying future monitoring

Is the monitoring and research done on Svalbard visible, accessible and relevant for local publics – and meeting the needs identified by them?
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There are opportunities for increasing the relevance and inclusiveness of long-term monitoring of environmental changes.

Although there is an extensive amount of LTM, it is not holistic and there remain many gaps near and far that local observations can fill.
It is not only about gathering knowledge but also how you gather it, what tools you use to understand and link the narratives, and how it can contribute in a wider context and meaningful way...
Want to know more:

www.arcticsustainability.com
www.thegrandshift.com
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