

CBBO 0.1 270=20 149=13  
 CBBO 0.3 620=31 368=19  
 CBBO 1.0 1467=120 797=48

18 March exposure

clean 62=5 11=3  
 clean upper 95% CL 82 23  
 CBBO 0.1 620=105 334=43  
 CBBO 0.3 1100=0 496=7  
 CBBO 1.0 1767=67 624=31

# Climate - Ecological Observatories of the Arctic Tundra iVAARNatur: urbanEcoObservatory

Station (cm)	TS%	PAH <sub>16</sub> µg/kgTS
<b>Molokroken</b>		
1 (0-2)	60,4	1899
2 (0-2)	56,5	393
3 (0-2)	54,8	341

**TS Tarrestoff**

Background Information

Note: Volume of consumption (t) of polyethylene particles (PE) in personal care products from 2000 to 2018 (2018 forecast) in countries of the Baltic Sea catchment area<sup>1</sup>. Consumption per capita (g), and the total release of polyethylene microplastic particles by the use of personal care products (t).

Country	Year	Consumption (t)	Per capita (g)	Release (t)
Germany	2000	15.34	12.0	1.18
	2018	15.34	12.0	1.18
Poland	2000	0.60	0.60	0.14
	2018	0.60	0.60	0.14
Lithuania	2000	0.10	0.10	0.02
	2018	0.10	0.10	0.02
Latvia	2000	0.05	0.05	0.01
	2018	0.05	0.05	0.01

## process, progress, disturbance & Ecosystem Perception in VADSØ

Table: Volumes of consumption (t) of polyethylene particles (PE) in personal care products<sup>1</sup> from 2000 to 2018 (2018 forecast) in countries of the Baltic Sea catchment area<sup>2</sup>. Consumption per capita (g), and the total release of polyethylene microplastic particles by the use of personal care products (t).

Rank	Country	Econ. classif.	Coastal pop. (millions)	Waste gen. rate (kg/yr/cap)	% plastic waste	% mismanaged waste	Mismanaged plastic waste (MMT/year)	% of total mismanaged plastic waste	Plastic marine debris (MMT/year)
1	China	UMI	262.9	1.10	11	76	8.82	277	132-352
2	Indonesia	LM	187.2	0.52	11	83	3.22	101	0.48-1.29
3	Philippines	LM	83.4	0.5	15	83	1.88	5.9	0.28-0.76
4	Vietnam	LM	52.3	0.70	13	88	1.83	3.8	0.38-0.75
5	Sri Lanka	LM	14.6	5.1	7	84	1.59	5.0	0.24-0.64
6	Thailand	UMI	26.0	1.2	12	75	1.03	3.2	0.35-0.41
7	Egypt	LM	21.8	1.33	13	69	0.91	0.9	0.15-0.50
8	Malaysia	UMI	22.9	1.52	13	87	0.94	2.9	0.34-0.37
9	Nigeria	LM	27.5	0.79	13	83	0.85	2.7	0.13-0.34
10	Bangladesh	LI	70.9	0.43	8	89	0.79	2.5	0.12-0.31
11	South Africa	UMI	12.9	2.0	12	95	0.63	2.0	0.09-0.25
12	India	LM	187.5	0.54	3	87	0.60	1.9	0.09-0.24
13	Algeria	UMI	18.6	1.2	12	80	0.52	1.6	0.08-0.23
14	Turkey	UMI	34.0	1.77	12	18	0.49	1.5	0.07-0.19
15	Rokkstan	LM	14.6	0.70	12	88	0.48	1.5	0.07-0.19
16	Brazil	UMI	74.7	1.03	16	11	0.47	1.5	0.07-0.19
17	Burma	LI	19.0	0.44	17	89	0.45	1.4	0.07-0.18
18 <sup>1</sup>	Morocco	LM	17.3	1.46	5	88	0.31	1.0	0.05-0.12
19	North Korea	LI	17.3	0.6	9	90	0.30	1.0	0.05-0.12
20	United States	HIC	112.9	2.58	13	2	0.28	0.9	0.04-0.11

Kristine Slettum Skarphol

Fall 2017  
 supervisors

Lisbet Harboe & Peter Hemmersam

Oslo School of Architecture & Design

# 1 Introduction

## 1.1 Project Introduction

### **Climate-Ecological Observatories for Arctic Tundra**

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·  
·  
·  
·

Location: **Vadsø**, Finnmark, Northern Norway

iVAARNatur:urbanEcoObservatory

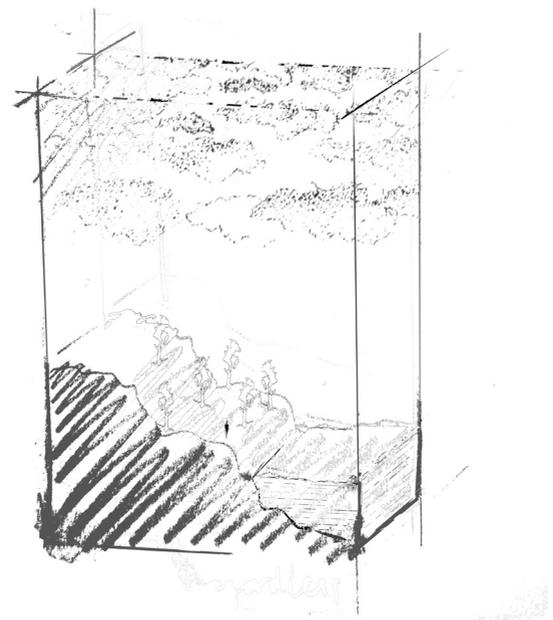
The project consists of two parts:

#### **I Pre-diploma: Research**

**Presenting initial research and mapping concerning the subject of the relationship between human and nature and the geographical area.**

#### II Diploma: Project

Visualizing a combined urban, spatial, knowledge strategy and includes a set of designed interventions.



# Content:

## **1 Introduction**

1.1 Diploma Introduction

## **2 Statement**

2.1 Essay - Project Statement

**2.2 Research Questions**

## **3 COAT Research Program**

3.1 Climate-Ecological Observatories  
for Arctic Tundra

3.2 Research Infrastructure

3.3 Local strategy

3.4 Pan-Arctic Perspectives

## **4 Context - Territory**

4.1 Global Arctic

4.2 Rural Norway

4.3 Varanger Peninsula

4.4 Vadsø

4.5 Local Voices

## **5 Appendix**

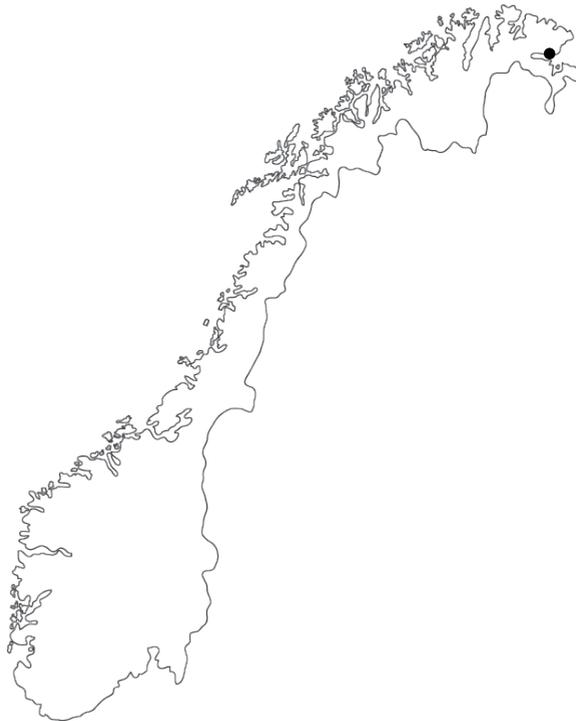
5.1 Literature references

5.2 Project references

## **6 References**

6.1 Illustrations

6.2 Literature list



## 1.1 Diploma Project: Introduction

My project includes an extension of the local strategy by the existing research initiative, *Climate Ecological Observatories of Arctic Tundra's* (COAT), to communicate their climate change findings and knowledge. I will extend their strategy by designing new modes for communicating the research COAT produce along the surrounding border between tundra and taiga. The diploma project includes:

### **An urban strategy**

+

### **A set of design interventions**

The city centre of Vadsø will serve as the starting point to investigate how the use of place-specific assets may contribute to produce design interventions communicating COAT's research and contribute to reflections on the eco-system and the changes.

The vast Varanger Peninsula National Park adds friction to the discussion regarding the idea of the primary and pristine. Half of the area within the Vadsø municipality is half National Park. The municipal council and the COAT research program face strict national restrictions slowing down their plans.

My project is informed by discussions of the relationship between human and nature based on considerations of eco-system management, sustainable development and climate change on a local level. The project explores how to interpret and disseminate the results of a global research program such as COAT, making it relevant locally, seeking to use the research program in an extended version as catalyst in an urban development strategy.

Program and strategy will be developed along with the project, and the design will be generated through this process. Design interventions will be the testing of how aims and strategy may manifest themselves spatially, and how this could affect the urban spaces of Vadsø and the development of the city.



# Thesis Outline

## 2.1 Project Statement

### **Climate-Ecological Observatories** process, progress & disturbance

This diploma thesis will develop a design strategy for a set of climate-ecological observatories on the Varanger Peninsula in Finnmark, northern Norway. The program I will base the brief on is a part of the research project COAT (Climate-Ecological Observatory for the Arctic Tundra) initiated by The Fram Centre (High North Research Centre for Climate and the Environment). The program is currently in the progress of being implemented. Observatories will be implemented at the Varanger peninsula, as well as on Svalbard. These observatories will be Norway's contributions to the global call to establish scientifically robust observations systems enabling real-time detection, documentation, understanding and actions on climate impacts in climate change hot spots, in this case the tundra biome. The particular program according to COAT is two field stations on the plateau of Varangervidda, one of them inside the border of the Nature Reserve of Varanger Peninsula, and also a local office located in Vadsø. The needs of the field stations are a workspace (instrument), living space (body), storage space (supply and instrument) for six people in 2-3 weeks. The field stations will be central nodes in a larger system of smaller monitoring and measuring installations, all to be considered non-permanent.

The research program will not inform the thesis as a strict guideline, but as a frame and a stepping stone to investigate the relationship between human and nature through architecture. Both program and locations has interesting friction areas related to this relationship and how it potentially translates into the production of landscape. The intention of the project is thus to challenge the term nature in itself. The sites are located within or close to the border of the Varanger Peninsula National Park. If first nature is being defined as the primary and pristine, untouched by humans, and in contrast second nature is defined as modified nature (Smith, 1984), such as extractive or settlement landscapes, you are per definition stuck with a border between the two. You are also stuck with aesthetics and economics as the two primary forces 'producing' landscapes and conditioning approaches (Purdy, 2014). One might ask if the idea of a national park is anything but a wilderness-seeking romanticism,

# Thesis Outline

## 2.1 Project Statement

### Climate-Ecological Observatories process, progress, disturbance

manifested through a border drawn around a piece of territory, managed and protected as a response to the human idea of the real nature experience. On the other hand, are the current way of approaching natural resource extraction anything but treating landscape as a neutral stock of resources? Would the elimination of the border between the two landscape notions be an introduction to a potential Third Nature, and could this be a notion of nature as something not existing apart from humanity and thus contribute to create a broader ecological awareness of the integration of humans in nature?

Another area/program friction related to the question of nature and human relates to scale, and how globalization influences landscape in every corner of the globe. Thus, the global agenda of this kind of research program interacts with the local landscape and local resource practices. Both the idea of the scenic landscape and the extractive landscape (Larsen, 2014) tend to exclude the voice of local tradition and practice. Another friction the project will pay attention to is yet another border, this one existing both physically and visually: the biome border between the tundra and the taiga. This particular border is one important factor making the Varanger Peninsula a climate change hot-spot, leading to the location of the COAT research program, as it functions as a first indicator of change.

The design interventions will critique perspectives, but will at the same time answer the program of the COAT research program. This important program currently relies on an approach to landscape based on cultivating a border between first and second nature. This perspective will be challenged. The strategy of local outreach and society involvement is already a valid part of the COAT research program strategy, differing from a lot of global research initiatives. This thesis will strive to extend this local strategy, as a tool for architecturally investigating place-specific potentials for understanding and changing our eco-system perception. Human influence is now geological in scope, and climate change is planetary engineering without a design strategy. Thus, the project is founded on an idea that in order to 'solve' climate change, we need to reimagine our entire relationship with nature.



Building Raggovidda Wind mill park  
Viewpoint Snøhetta





Spor etter planlagt traséen til det som skulle bli kraftlinja mellom Kongsfjord og Komagvær



# Thesis Outline

## 2.1 Project Statement \*Third Nature

The word *Nature* with its slippery, and somewhat undefined meaning, leaves a large room for interpretation. And there is no way denying this word being central to all ecopolitical discourse. “It is nature, after all, that we are told is being lost, damaged, polluted and eroded; and it is nature that we are enjoined to respect, protect and preserve.” (Soper, 1999) This makes the definition of and the changing essence in this word very important to define when entering a new chapter of environmental discourse.

This discussion has of course not just begun. The argued dualism (Schmidt, 1971) in a young Karl Marx thoughts (Economic and Philosophical Manuscripts of 1844) on nature under capital. Later Friedrich Engels wrote the *Dialectics of Nature* (1883). In continuation of the Marxist dualism geographer Neil Smith elaborates the terms *first* and *second* nature. First nature as the primary and pristine, untouched by human. In contrast, second nature including all forms of nature humanly modified. Agricultural and urban landscapes, the commodified nature. (Smith, 1984) Smith further argues that there are no longer any use in trying to find *first nature*. Everything is to some extent commodified and valued for resources. Following this logic it does not make sense to even think about trying to protect, or not to mention create first nature, no matter how strong the yearning we have for it. Because as soon as we do it is no longer neither primary or pristine and it will merely be perceived *first nature*.

So concepts of first and second nature are not new. The same goes for *Third nature*. Third Nature was a term coined during Renaissance referring to a new type of garden creating a new and unknown reality with a radical new materiality constructed through cultivation. (AA Gallery, Third Nature Exhibition, 2014) Marcus Tullius Cicero (106-43BC) mentioned first nature (wilderness), second nature (sowing corn etc) and third nature or *terza natura* (the landscaping of gardens) (Bartolomeo Taegio, 2011)

What is changing though, I argue, is the increasing need for its relevance and value in the ecopolitical discourse. Third nature as a definition of the symbiosis between nature and human, which historically has been everything from harmful, necessary, useful to beneficial and meaningful.

In the sami language this kind of landscape are called *meahcci*, meaning something that has to be cared for, but at the same time give us what we need. A connection between animal, plant and human.

# Thesis outline

## 2.1 Project Statement \*Third Nature



This leaves us with a front stage and a back stage. The front stage giving a vision of this pristine landscape staged, framed and commodified as the pure, real, wild experience. This romantic notion of the nature conceals a complex truth about our relationship with it. Placing us at a safe distance, gazing. Then we have the backstage, the landscape we use for extraction of resources. With both a proud and a problematic history attached to it. Still is damaging, necessary and beneficial all together, kept as far away as possible from being mixed with our scenic landscape. This makes the knowledge and discourse on Nature Preservation and Landscape Extraction and use today rather blunt.

By deromanticizing nature, in the sense that human intervention should and could contribute to restore the damage done, we could leave the path of unrefined nonsophisticated extraction of resources, concealing rather than dealing with the truth of our interaction / interference / exploiting of nature's resources.

This obvious urge to control and protect raises some interesting questions. Faced with these regulations according to completely diverging notions of landscape it becomes interesting to look at why it is like that. When it comes to the romantic notion the visual seems to play a significant role and question what is esthetically pleasing, what do we see, and why does it matter? Much which ecologists loosely refer to as natural is indeed a product of culture, both in a physical sense and in the sense of the perceptions of its beauties and value are culturally shaped" (Soper, 1999)

This contributes to preventing the ability to grasp a larger complexity both in time and scale, putting us in the position of categorizing rather than connecting to see the larger picture that is our eco-system. It makes our ecological awareness limited and two-dimensional.

Could the access and appreciation of a Third nature this be an opportunity to raise a stronger and more complex ecological awareness?

# Thesis Outline

## 2.1 Project Statement \*Third Nature

We extract, modify, destroy, create and cultivate. Humans today extract and use around 50% more natural resources than 30 years ago. Further ongoing environmental change increasingly demands that humans have to intervene in ecosystems to maintain or restore ecosystem services and biodiversity. So why is the ecopolitical discourse so heavily influenced by elements creating a somewhat dystopian image, leading to a sense of powerlessness and apathy. We should withdraw at this point. We should expand, cultivate and sophisticate our interventions. And the knowledge and awareness to go with it.

First and foremost, to be able to raise awareness the need for accessible information is undiscussable. But there are tons of information out there and the ability to process information by looking at neutral statistics and is not useful neither appreciated.

Telling the story of the previous would be important to put today's events in a line of ever-continuing processes. Accessing present established methods and traditions of interactions and interventions with landscape and *nature* has a purpose when it comes to understand our infliction on process, either productive or destructive. Problematic interactions with landscape, as well as necessary and meaningful ones are all important to grasp the larger picture of future opportunities of processing and development.

On the foundations of the previous, both productive and destructive (or both) landscapes, introducing the visionary and imaginative visuals will be important. Evoking the hope for ongoing change, triggering the imagination for something larger.

Process, not object. The describing of the northern territories as being subjected to deep time, climate change, geological forces encounters the dimension of complexity in time and scale that this thesis should aim to approach.





# Thesis Outline

## 2.2 Research Questions

- 1 How can a design strategy reveal the human made influence in a landscape perceived as *first nature*, primary and pristine?
- 2 How can design interventions architecturally investigate place-specific potentials to understand and change our eco-system perception?
3. How can a climate-ecological observatorie work as a catalyst in an urban development strategy for a shrinking city?



**Science Plan for COAT:**  
Climate-Ecological Observatory  
for Arctic Tundra



FRAM – High North Research Centre  
for Climate and the Environment

The Ministry of Education and Research  
The University of Tromsø  
Norwegian Polar Institute  
Norwegian Institute for Nature Research

COAT Climate-Ecological Observatories for the Arctic Tundra

## 3.1 Program

Existing Program of COAT

(This program only partially informs the program of my diploma thesis, see p. 1)

### COAT Research Project

Location: **Varanger Peninsula**

Office logistics:

**Vadsø**, Statens Hus

Office space 1 person

Storage space at the Vadsø harbor

**Tromsø**, Framsenter & University of Tromsø

Office space, the rest of COAT research team

Field logistics :

#### 2 field stations

a part of COATs 2 intensive areas

basis for field work-based monitoring

#### Housing units

accommodation for COAT personell

max 6 persons i 2-3 weeks of field work

workspace for

processing of samples, data

preparing of instruments

#### Supply logistics

storage space / supply and gear

HMS equipment

scientific equipment

food supply

fuel

**Instrumentation:** Weather stations Camera trap

Networks, listening stations etc

Not to be considered permanent installations.

COAT Climate-Ecological Observatories for the Arctic Tundra  
Research - Norwegian Observatories



Science Plan for COAT  
Climate-Ecological Observatory  
for Arctic Tundra

# Geographical Region -

## 3.1 Climate Challenge - COAT

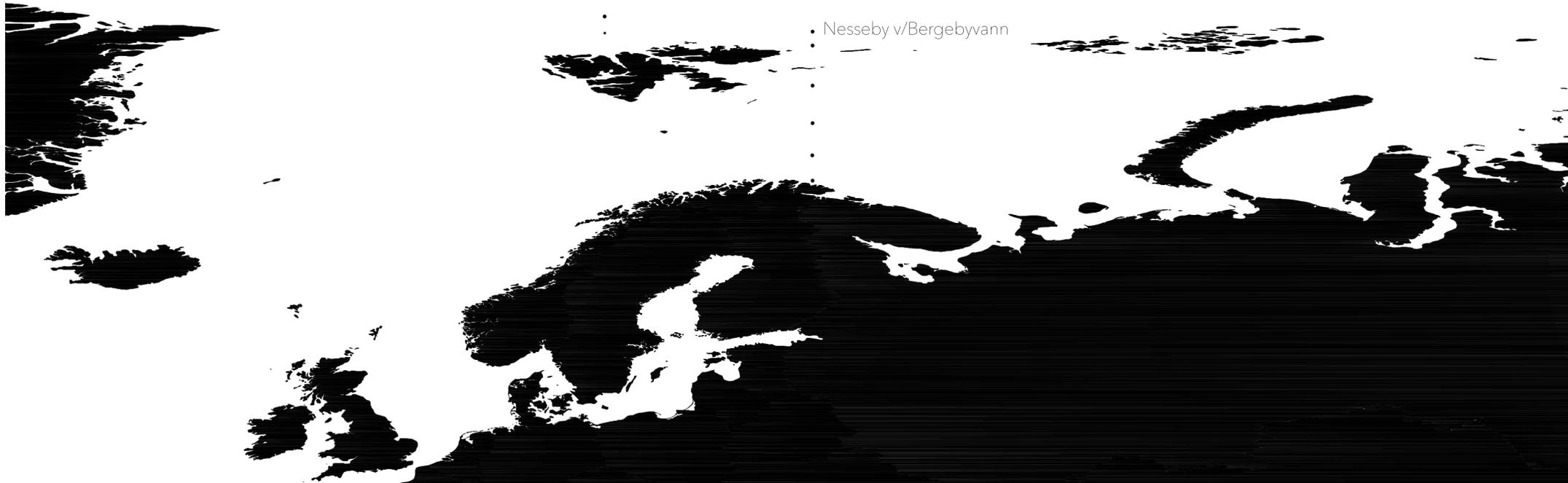
### Locations of COAT field observatories

#### SVALBARD

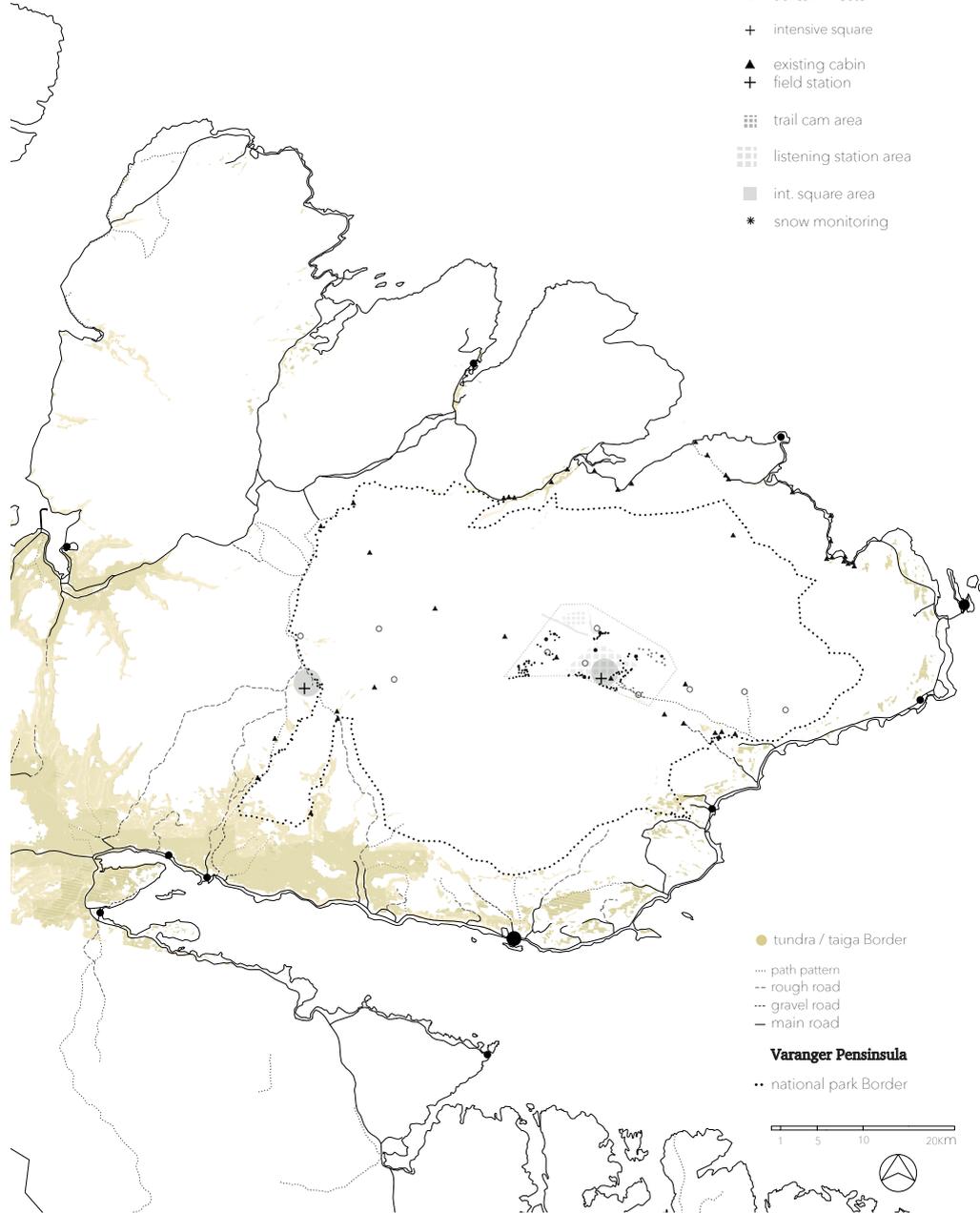
- Longyearbyen
- Adventdalen // Sassendalen
- 
- Ny Ålesund

#### NORWAY

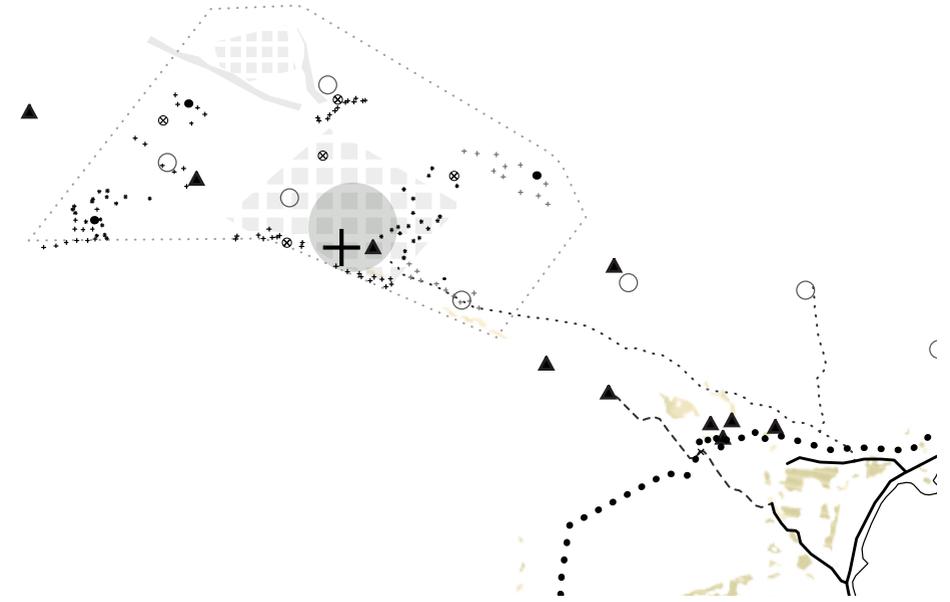
- Varanger Peninsula
- Vadsø head quarter
- 
- Komagdalen w/Hubiahytta
- 
- Nesseby w/Bergebyvann



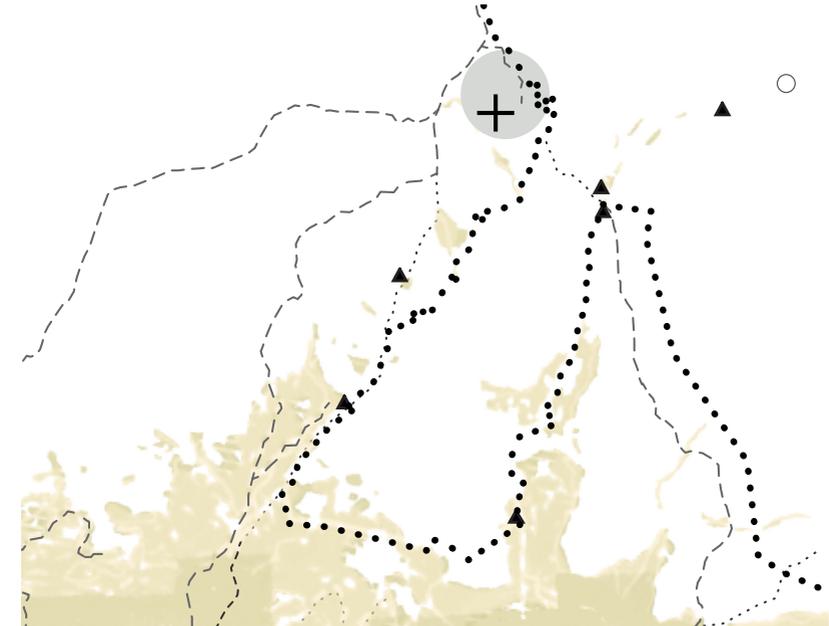
## 3.2 Research Infrastructure



Field Station: «Hubehytta» Komagdalen: N70.32212 E30.06437



Field Station: «Skoarrajohka» Bergebyvann : N70.33102 E29.13655



COAT Climate-Ecological Observatories for the Arctic Tundra

Locations: Varanger and **Vadsø**



**Vadsø:** Statens Hus, present location of COAT's local office



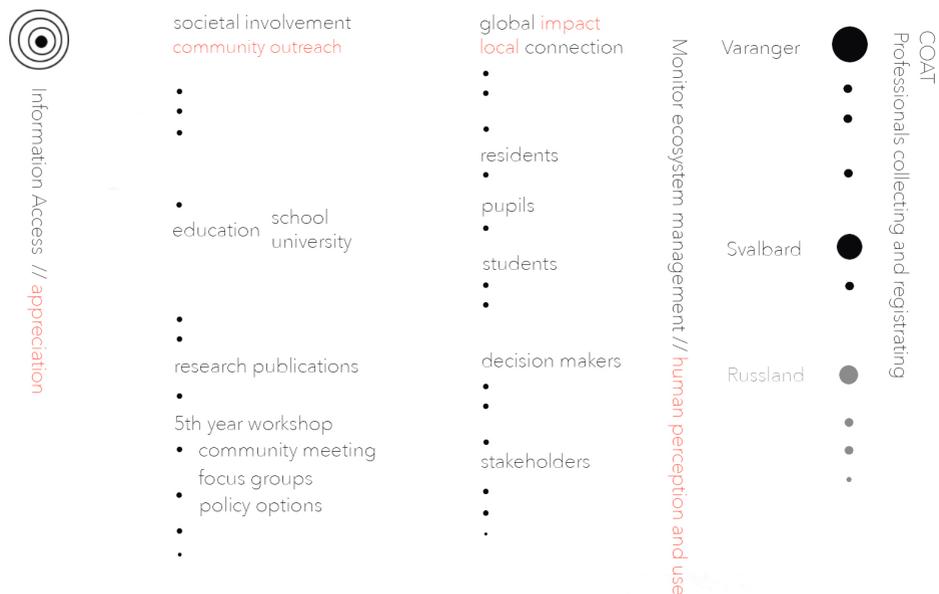
Varanger Plateau: Field Station: «Hubehytta»



Varanger Plateau: Field Station «Skoarrajohka»

## My summary on COAT's Local Strategy based on:

Science Plan of The Climate Ecological Observatories of the Arctic Tundra, published 2013



## 3.3 Local Strategy

Established Local strategy

### COAT Research Project

Societal involvement / Community outreach

**Local agenda** "(...)a structured scheme for involving stakeholders, policy makers and management authorities, as well as a protocol for monitoring changes in the public perception and use of ecosystem services and nature. This monitoring system of the socio-ecological system will partly be web-based and partly be based on observations and interviews".

From the Science Plan of The Climate Ecological Observatories of the Arctic Tundra (COAT), p. 147

**Global agenda** "The rapid shift to new climate regimes is likely to give rise to new ecosystems with unknown properties, making science unable to accurately predict the consequences. (...) This realization has led to urgent global calls for the establishment of scientifically robust observation systems that enable real time detection, documentation, understanding and actions(...)"

From the Science Plan of The Climate Ecological Observatories of the Arctic Tundra (COAT), p. 21

COAT Climate-Ecological Observatories for the Arctic Tundra  
Fieldwork



Listening Station, Grouse module



Possible location of Weather Station

COAT Climate-Ecological Observatories for the Arctic Tundra  
Fieldwork



Temperature Measurements

COAT Climate-Ecological Observatories for the Arctic Tundra  
Fieldwork



Reindeer in dead Birch forest



Intensiv Quadrant 15x15m

COAT Climate-Ecological Observatories for the Arctic Tundra  
Fieldwork



## INTERNATIONAL COLLABORATION

### Pan-arctic Perspectives

#### Collaborating Observatories:

The circumpolar tundra biome is vast, and different geographic regions are subjected to different climatic domains, species pools, ecosystem complexity and anthropogenic impacts. Thus, no single site or ecosystem can be expected to be representative for the changes the biome will be facing in a warmer climate.

#### Greenland & Bylot Island

COAT shall maintain tight links with other ongoing monitoring/long-term research initiatives applied to tundra ecosystem that have adopted a comparable approach (i.e. based on a food web perspective); notably NERO/ZERO in Greenland and the Bylot Island ecosystem project in Canada. Indeed, collaboration between these initiatives

#### Russia

Russia harbors almost all of the Eurasian arctic tundra. We regard in particular two sites as suitable sister observatories to the two Norwegian COAT sites; Erkuta in Yamal Peninsula relative to Varanger peninsula in the low Arctic, and Wrangel Island in eastern Siberia relative to Svalbard in the high Arctic.

### 3.4 Pan-arctic Perspectives

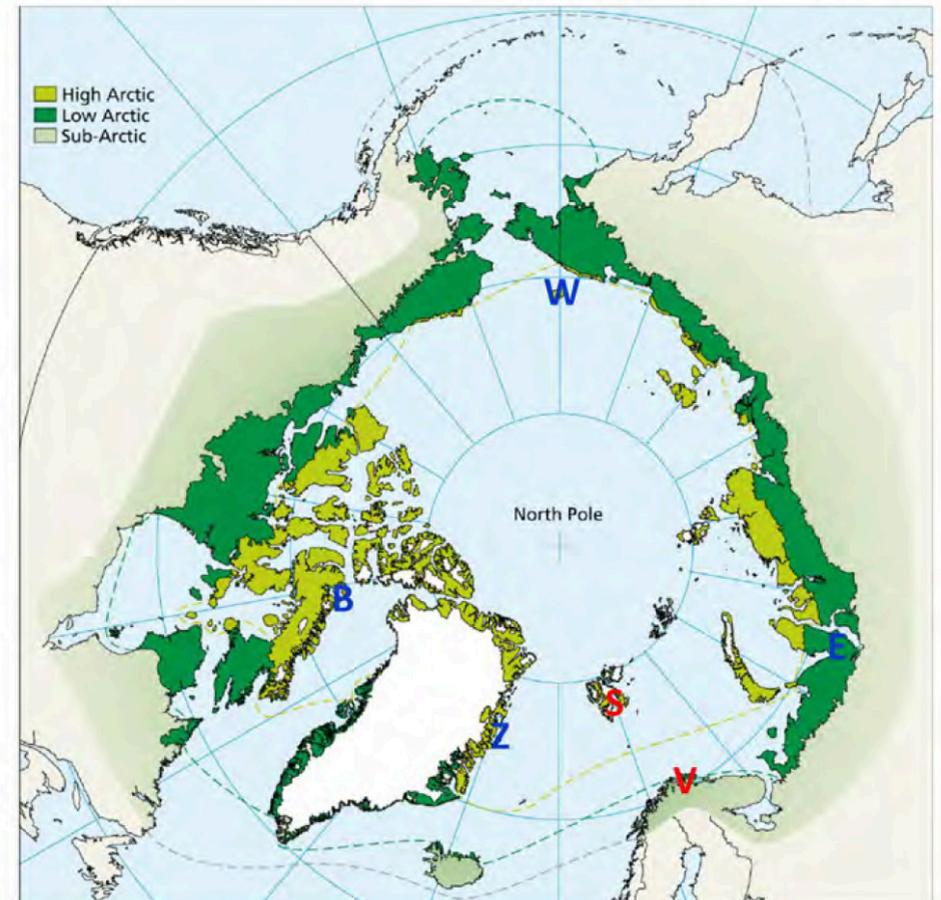
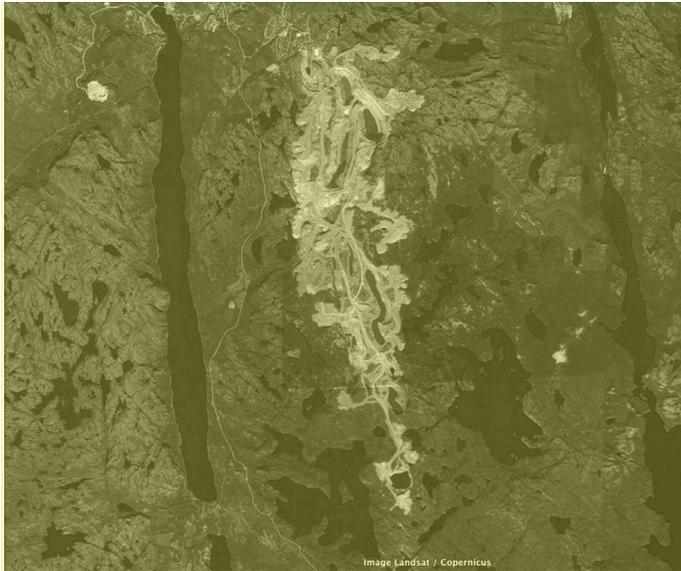


Figure 4.1. The sites of COAT (V-Varanger Peninsula, S-Svalbard) and collaborating observatories (B-Bylot Island, E-Erkuta, Z-Zackenberg and W-Wrangel Island).



# Geographical - Region

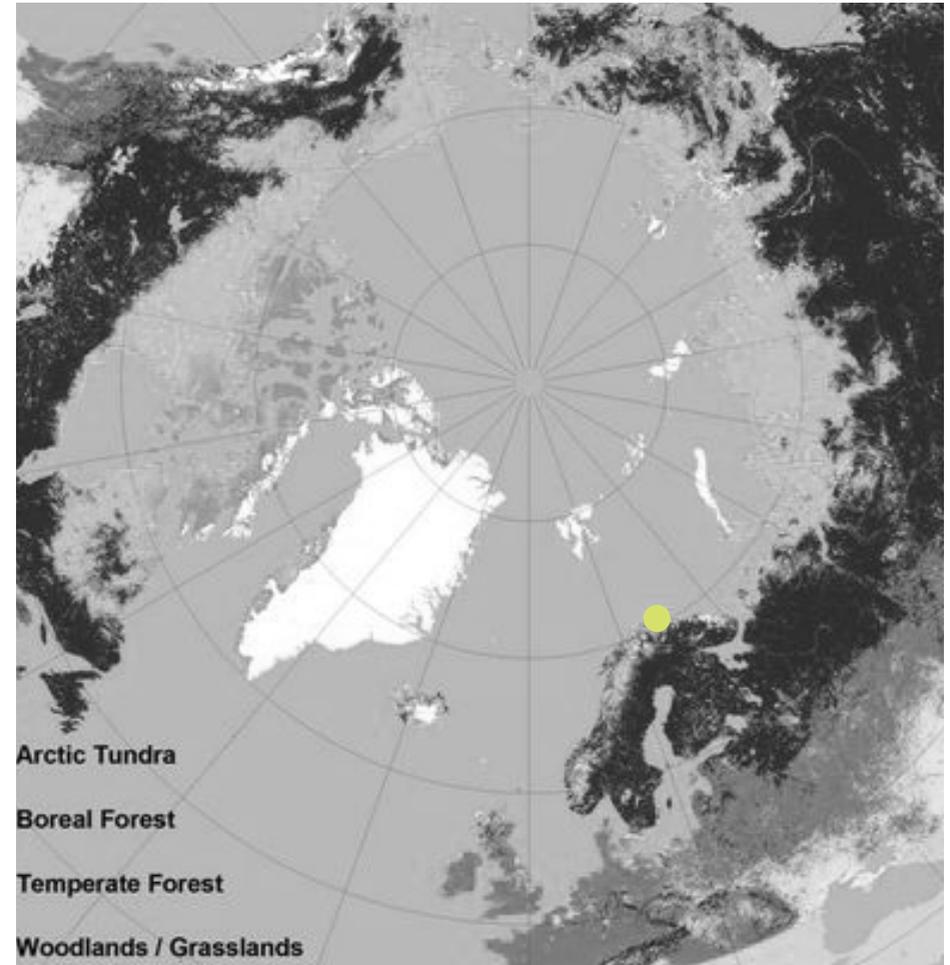
## 4.1- Global Arctic - Tundra / Taiga Varanger Peninsula on the border



Bjornevatn Mine - second largest open mine pit in Northern Europe, Sør-Varanger, Google Landsat / Copernicus



Instagram #Bergebyelva - turdestinasjon / lakseelv, Varangerbotn



Arctic tundra biome is located in the northern hemisphere, encircling the north pole and extending south to the forests of the taiga. Known for its cold, desert-like conditions. The average winter temperature is  $-34^{\circ}\text{C}$  ( $-30^{\circ}\text{F}$ ), the average summer temperature is  $3-12^{\circ}\text{C}$  ( $37-54^{\circ}\text{F}$ ) which enables this biome to sustain life. Bordering the tundra is the taiga biome (boreal forest).

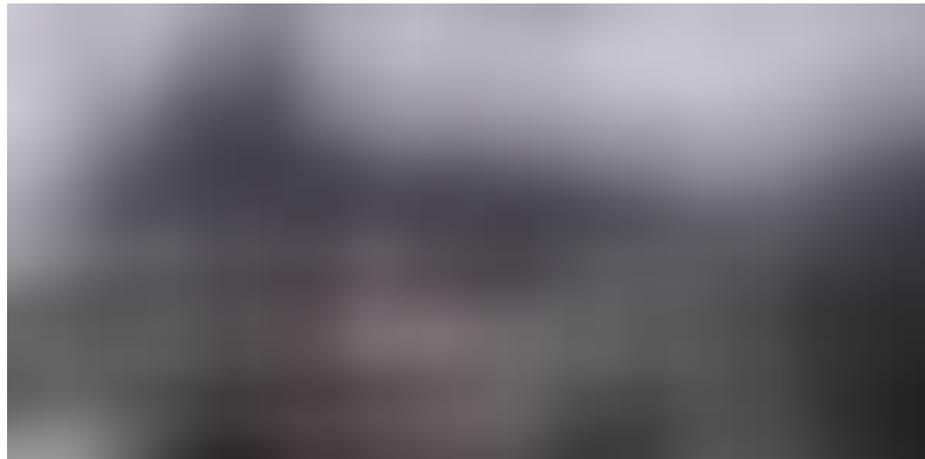
# Geographical - Region

## 4.1- Global Arctic - Hot spot



### Arctic future strategies from a local perspective

Arctic communities are facing the direct impacts of climate change in unique ways — retracting sea ice, increased marine shipping and tourism, thawing permafrost and coastal erosion, earthquakes, tsunamis, hurricanes and loss of biodiversity.



Lofoten — Norway (courtesy of adriankirby — Pixabay)

**N**early four million people live in the Arctic region and, although this is less than 1% of the world’s population, the region equates to 15% of the planet’s land area and is home to 400 different communities. A diverse and sparse population with contrasting governmental and indigenous structures overlaid on a vast territory of unique terrestrial and maritime areas. As in all areas, local and regional governments in the Arctic deliver essential services and represent the needs, challenges, and opportunities of these communities before the eight Arctic states.

Arctic communities are facing the direct impacts of climate change in unique ways—retracting sea ice, increased marine shipping and tourism, thawing permafrost and coastal erosion, earthquakes, tsunamis, hurricanes and loss of biodiversity. Models already indicate that climate change will change the timing and magnitude of spring melting, resulting in “ice jam” flooding in communities. In addition to the people within the community, this shift will impact on fish resources and biodiversity.

When you live at 78°N you become an expert in everything

Christin Kristoffersen, former mayor of Longyearbyen, talks about the challenges and...  
citiesofthefuture.eu



Environmental changes are coupled with human-made phenomena such as globalization, urbanization, social inequality, and a lack of modern infrastructure and essential services and the new economic opportunities that often accompany them. Increased transportation and more infrastructure will affect indigenous peoples in remote communities and their use of frozen lakes and rivers as routes to traditional hunting, fishing and trapping areas or for accessing larger human settlements.

Cathleen Kelly, Senior Fellow, Center for American Progress [points out](#) that the global costs of Arctic climate change will be astronomical, reaching anywhere between \$7 trillion to \$90 trillion between 2010 and 2100. There is most certainly a sense of urgency and a need for all hands on deck.

In this dynamic, it will be local communities who adapt, manage risk, and work to harness the benefits of change for the community, and local leaders will be on the frontline. To confidently address these challenges and seize opportunities, the Arctic region needs new forums for cooperation, learning and best practices sharing at the local level.

### The Arctic Mayor Forum - Municipal Leadership and Development

# Geographical - Region

## 4.1- Global Arctic - Hot spot



Social and ecological systems in the Arctic are inextricably linked, more closely than most other regions of the world, and some aspects of these systems are changing fundamentally and surpassing thresholds that may be irreversible. Indigenous residents of the Arctic have always adapted to environmental changes, but the intensity of climate change, combined with social, environmental, economic and political shifts and constraints, make adaptation extremely challenging in today's Arctic settlements.

*"The people of our municipality are resilient and intend on creating a good life for themselves and their neighbors, and on facing the obvious challenges head-on... We need to strengthen the local government and we need to find solutions on resilience for the north together." Mayor of Kommuneqarfiq Sermersooq Asii Chemnitz Narup (Greenland)*

*"The English philosopher John Stuart Mill made clear that local governments are the essential part of the democratic government because they increase the opportunities for participation ... Local authorities have*

*considerable power, as local knowledge, interests, and perspectives to make it more likely that greater efficiency can be achieved." Mayor of Akureyri Eiríkur Björn Björgvinsson (Iceland)*

The Arctic Mayor Forum, under the heading 'Municipal Leadership and Development', is an important step in advancing local circumpolar cooperation in the Arctic discourse, providing local leaders a more evident role developing the pan-Arctic future. The goal is to secure participation from as many Arctic Mayors and communities as possible to secure the value of this process.

May 11th, 2017 marked a historic day in this development. Twelve mayors from five countries—the United States, Canada, Finland, Iceland, and Norway—developed and signed the first-ever Arctic Mayors Declaration. The Declaration, among other things, states:

*"Local government in the circumpolar region has a special role – to deliver essential public services; convey the priorities of residents at the most fundamental level to state, national and international decision-makers; and work to ensure that the community itself is resilient and sustainable in the long term."*

The Norwegian Government has implemented the regional development in their Arctic strategy, hence they find that the Arctic is Norway's most important foreign policy priority. Foreign and domestic policy are intertwined in the region, and people's everyday lives involve both high politics and day-to-day issues. Close international cooperation is crucial to maintain safety standards and protect the Arctic environment and resources, presented by Grete Ellingsen, State Secretary to the Minister of Local Government and Modernization, Norway.

Resilience building is essential in the face of changing challenges in this extreme climate, as such, special focus was given at the Arctic Mayors Forum on sharing the tools that local arctic leaders can use to become more resilient. To take this initiative further, Mayors, local governments, and community leaders were invited to the United Nations Human Settlements Programme (UN-Habitat) to establish an Arctic Resilient Cities Network (ARCN).

### Arctic Resilient Cities Network

# Geographical - Region

## 4.1- Global Arctic - Hot spot

As highlighted by the Arctic Council, it is important for governments, indigenous peoples and local communities to work collaboratively to build resilience to socio-ecological changes. This correlates with the terms of the ARCN, which suggests that the best possible means of ensuring future resilience in arctic settlements is through collaboration between cities, their local governments, and their cultural heritage leaders, by sharing knowledge, exchanging information, and lobbying their national governments to ensure inclusivity, safety, and sustainability of villages, towns, and cities throughout the region.

*“Participating members of the ARCN will have access to proven tools, guidelines and expertise through UN Habitat’s programmes and communities of practice. The ARCN will also provide a global platform for engagement of Arctic leaders with local governments around the world.” Dan Lewis, Chief, UN Habitat Urban Resilience Programme*

Whilst the effect of a changing climate remains a primary factor in the future vulnerability of human settlements in northern extreme cold climates, the resilience of these settlements depends on a transformative approach to planning, development, and governance.

‘Resilience’ is the ability of a system to bounce back and thrive during and after disturbances and shocks. Climate Adaptation is one series of adjustments in natural or human systems, in response to climate change, intended to minimize disruption or take advantage of opportunities. However even in the Arctic; villages, towns, and cities face a wide array of other challenges, and will need to consider their future development through ‘planning out risk and building in resilience’.

*“The leaders of the North want to lead, to create the future and make adaptation and resilient societies that benefit and secure our people. The local governmental voice is necessary to secure and shape the Arctic future for both the Arctic and the world.” The Mayor of Bodø, Ida Pinnerød (Norway)*

Mayors and other local leaders plan for the future of the Arctic people. Increasing the toolbox of resources (technology, smart solutions and social and educational development initiatives, among others) through a forum and space for sharing knowledge, best practices, and innovation is both required and requested.

***And this is what it is all about: Bringing together local leaders for global change.***

*Christin Kristoffersen is the former mayor of Longyearbyen, in the islands of Svalbard, the northernmost permanently populated location in the world. She is now a UN Habitat Arctic City Resilient Adviser, working with international relations, integration, migration, societal development, for the Arctic. You can follow her on Twitter @ckristoffersen*

. . .

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Aeroagnetisk kart  
 NGU (Geological Survey of  
 Norway), MINN (Minerals in  
 Northern Norway) program

Northern Norway sits on  
 large mineral resources, the  
 speculations are massive and  
 the area and has been highly  
 prioritized.

The geophysical mapping of Norway  
 Mineralrapporten 2012  
 The Mineral report (Mineralmeldingen)  
 is a strategy for mapping and extraction  
 of Minerals in Norway.  
 The grey hatch shows the mapped  
 areas.

## Geographical - Region

### 4.2 - Rural Norway

In rural Norway the opposition between sentrum versus periferi is very present. The Norwegian Government reforms regional Norway according to the idea of centralization as a tool for efficiency, efficiency being considered the most solid quality to aim for. Many local inhabitants of rural Norway express discontent and powerlessness in terms of desicionmaking concerning landscapes and resources historically belonging to them. The descisions are many of them made in centralized areas, only arriving locally when implementation of legislation is proceeded.

### Finnmark fylke County of Finnmark

The county of Finnmark being no exception. Located in the most both northern and eastern part. Being the largest but least populated county, of Norway, have several times through history felt the consequences of being considered periferi. Concerning infrastructure, settlement, administative functions, health care, and foreign politics as a part of the Barents Region sharing a border with Russia.

The diverging landscape notions become very obvious in an area like Finnmark. Rich on natural resources and with a high score on *wilderness estetique*. Both these qualities are usually followed by extensive systemof laws and legislations concerning extraction, pollution, preservation, monitoring, measuring ans so on. All of them tend having one thing in common. None of them likes to much interference in terms of local opinion often concerning their traditional way of use and extraction in their landscape, potentially interferring both with the preserving environmental law, and the capitalized extraction methods.

Norges Miljødirektorat  
Norwegian Environment Agency

Mapping of areas still to be  
considered pristine nature, 2014  
Pressure increasing on the  
Northern territories



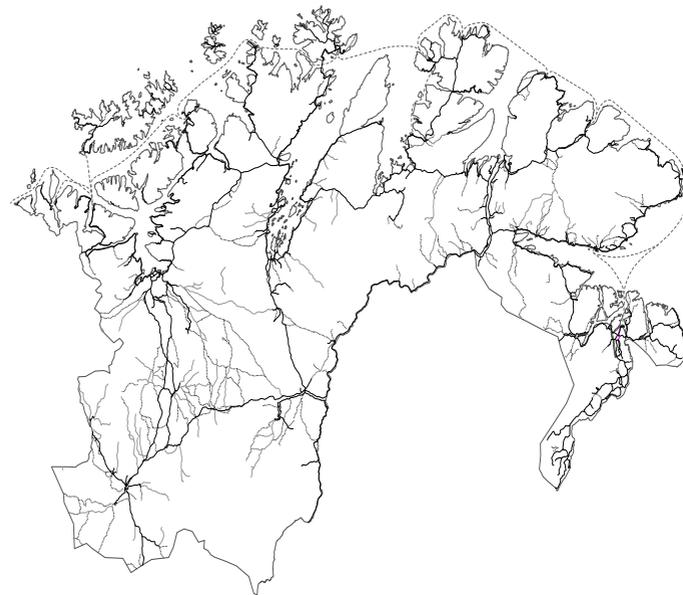
Considered pristine nature. 1900

Nord-Norge  
Northern Norway

Finnmark fylke  
County of Finnmark

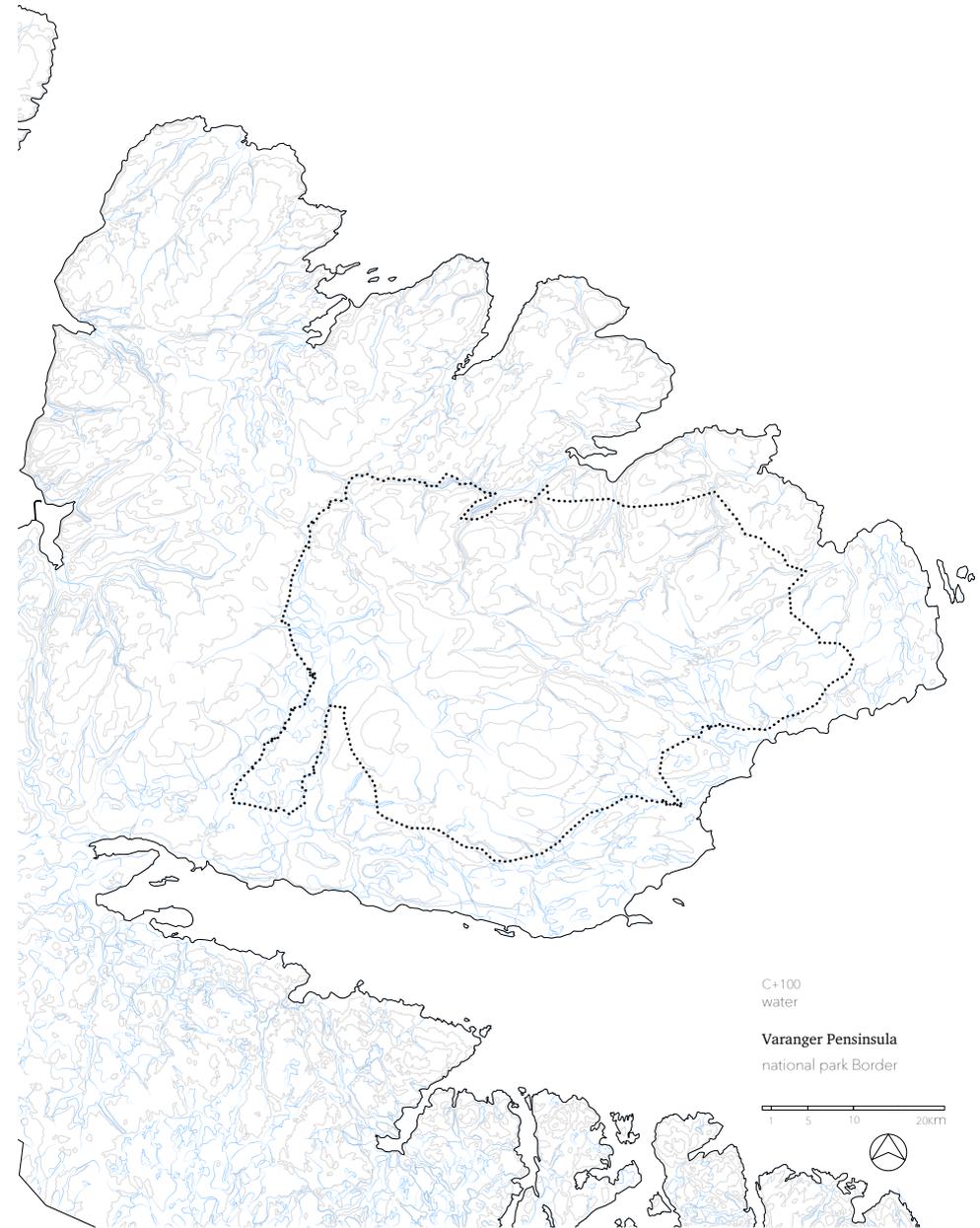
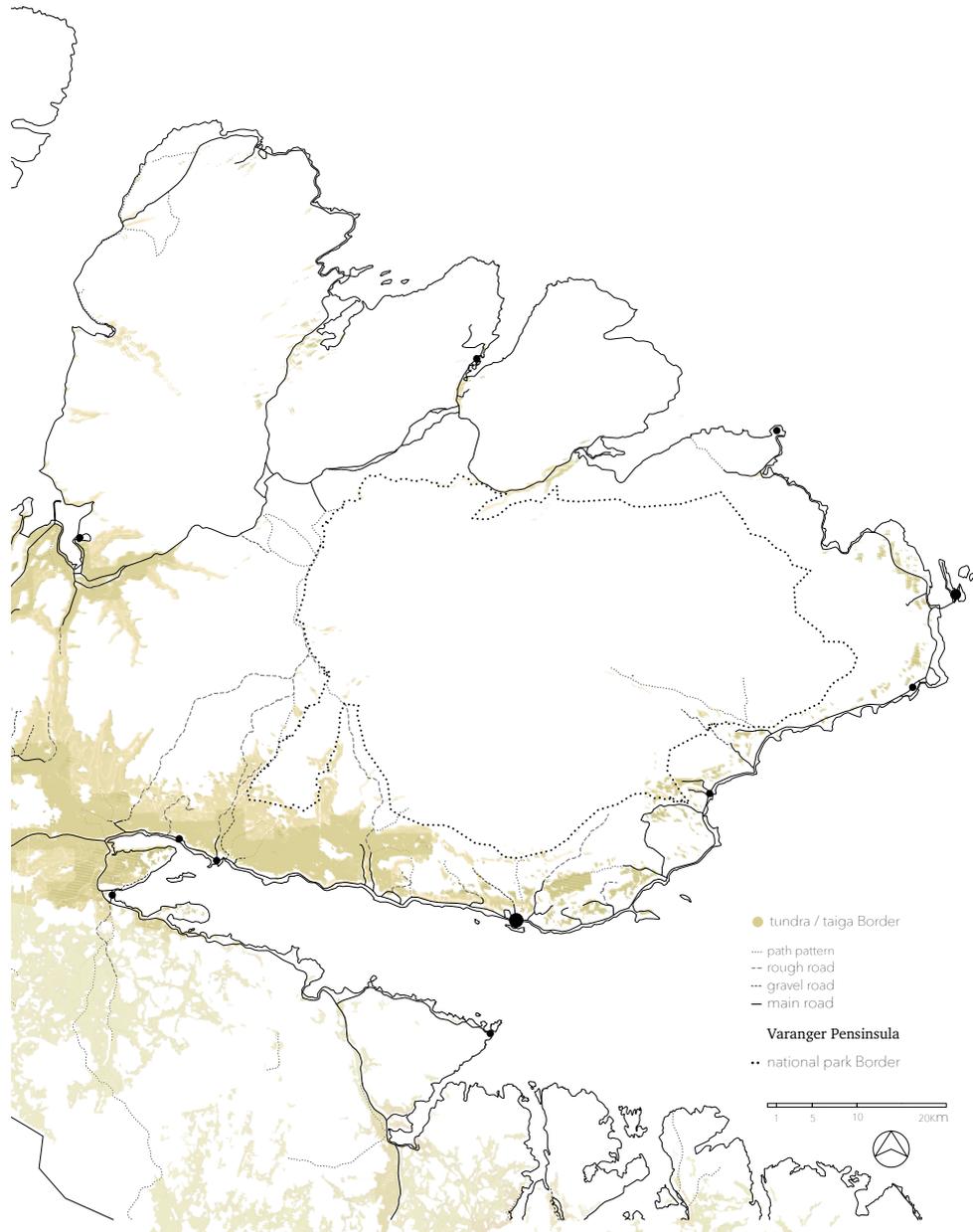
sami: Finnmárku  
kven: Finnmarkku

Area 48 618 km<sup>2</sup>  
Inhabitants 75 605



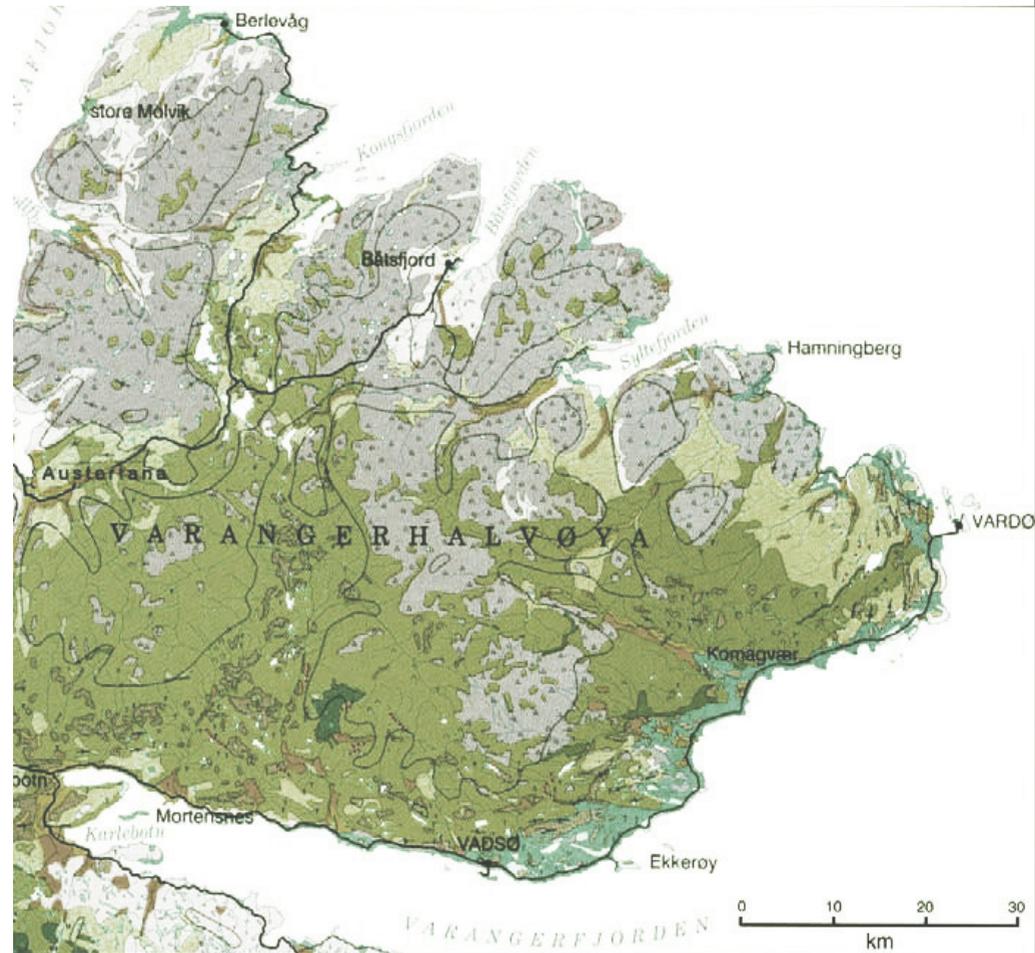
# Geographical Region -

## 4.3 Varanger Peninsula



# Geographical Region -

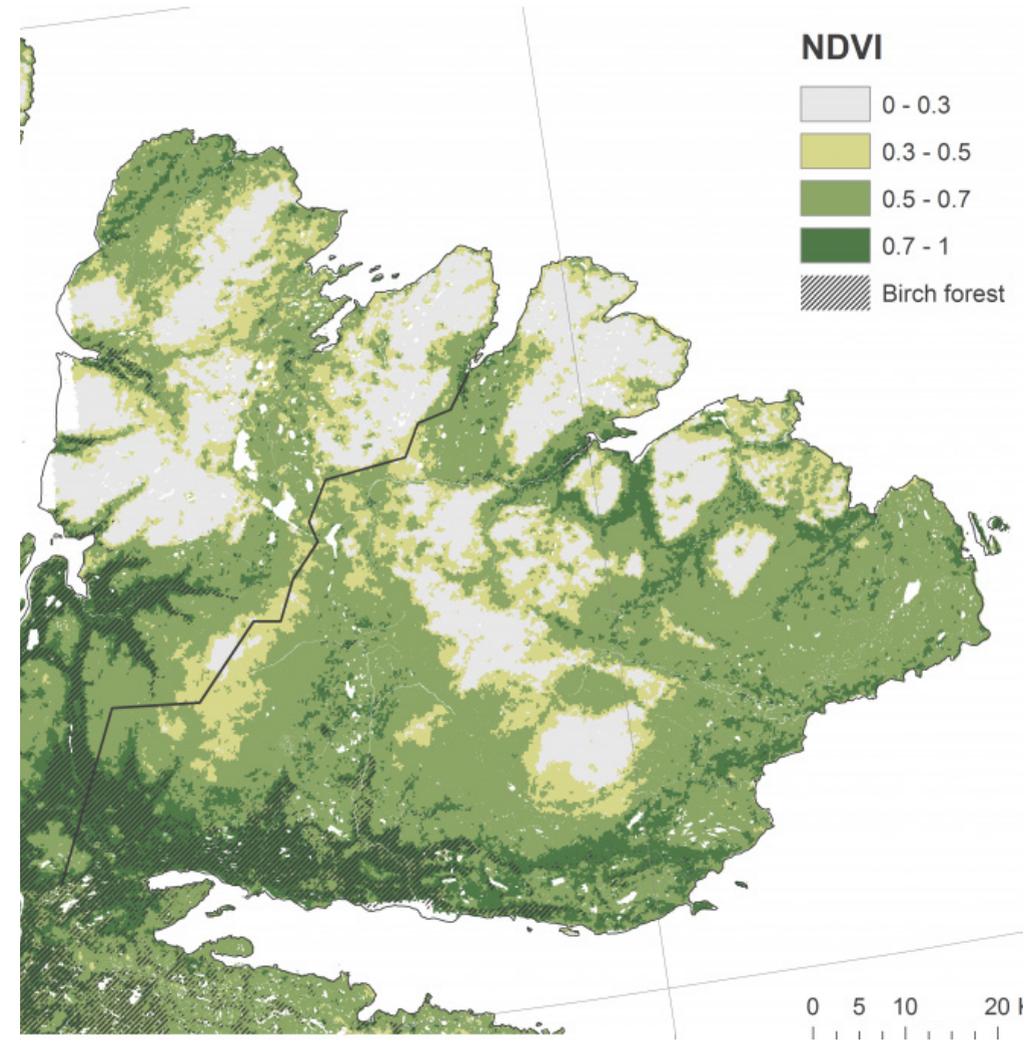
## 4.3 Varanger Peninsula



- |   |   |
|---|---|
| Morenemateriale, sammenhengende dekke, stedvis med stor mektighet     | Marin strandavsetning, sammenhengende   |
| Morenemateriale usammenhengende eller tynt dekke over berggrunnen     | Hav- og fjordavsetning og strandavsetning menhengende eller tynt dekke over berggrunnen |
| Avsmeltingsmorene (ablasjonsmorene) i hauger og rygger                | Elve- og bekkeavsetning   |
| Randmorenerydd / randmorenebelte                                      | Vindavsetning (eolisk avsetning)  |
| Breeilavsetning (glasifluvial avsetning)                              | Forvingsmateriale, sammenhengende ds blokker  |
| Ryggformet breeilavsetning, esker                                     | Skredmateriale, (rasmateriale) sammenhengende dekke, stedvis med stor mektighet         |
| Haugformet breeilavsetning (kame)                                     | Torv og myr (organisk materiale)  |
| Hav- og fjordavsetning, sammenhengende dekke, ofte med stor mektighet | Barfjell  |

# Geographical Region -

## 4.3 Varanger Peninsula



### NDVI

- 0 - 0.3
- 0.3 - 0.5
- 0.5 - 0.7
- 0.7 - 1
- Birch forest



Vadsø, view from Melkevarde



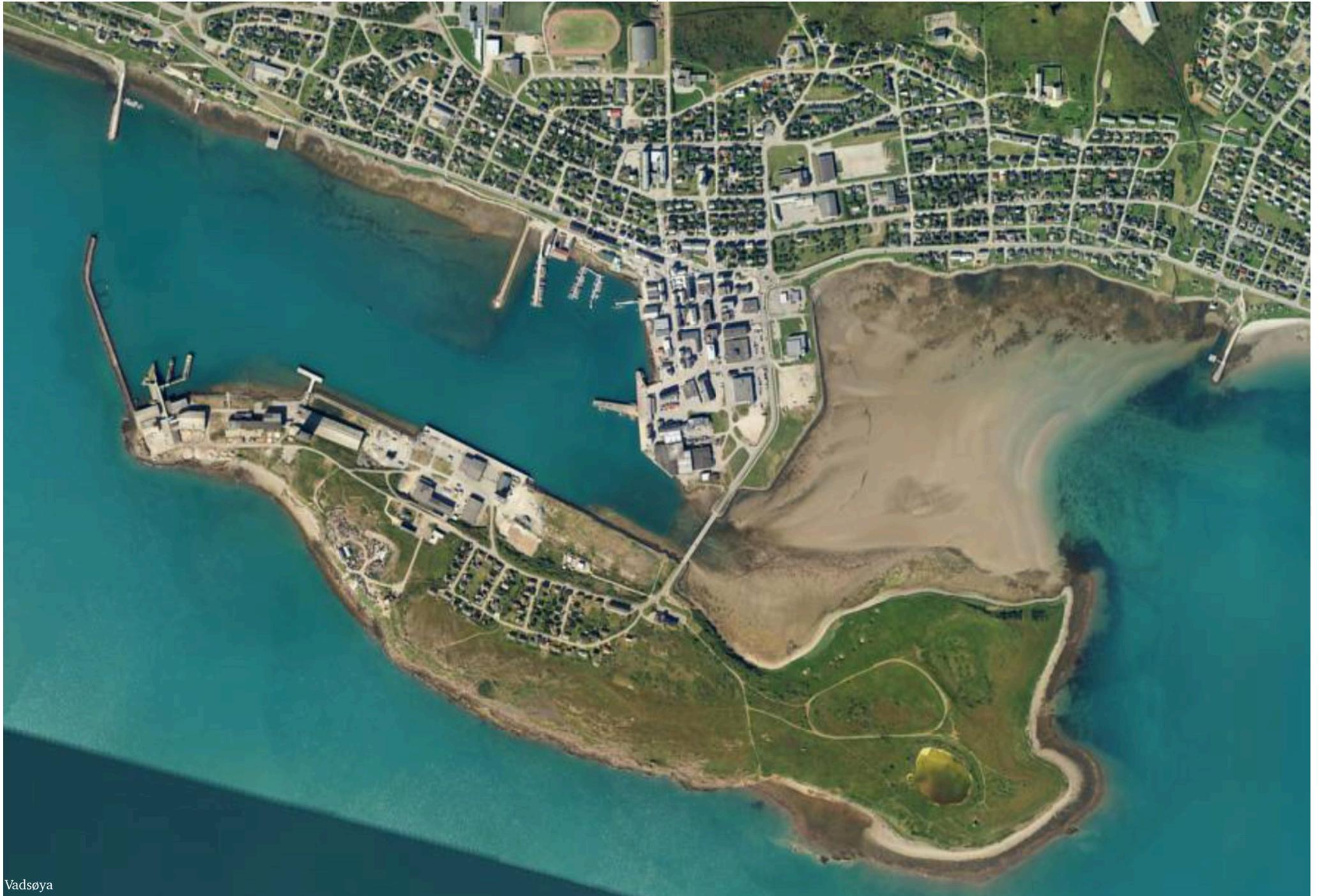
Vadsø, aerial photo from west



Varanger Plateau, Suottarvuopmi



Varanger Plateau, aerial photo, Soppavannet



Vadsøya

# Geographical Region -

## 4.4 Vadsø



Vadsøya Park, nature reserve and recreational area



Seabound - Ørtangen Tugboat in front / Mainland harbor front and city centre in background



Midtbyen, City Centre



Tourist Season - Vadsø Fjord Hotel on Vadsøya

# voices / territory

## 4.4 extract/preserve/use

A small selection of public discourses concerning the Varanger landscape. Territorial or economic. Global, national and local.



Nå vil næringsminister Trond Giske kartlegge alle mineralverdier i Norge. Verdien anslås til 2500 milliarder kroner. Ida von Hanno Bast

## - Dette blir tidenes skattejakt i Norge

Næringsminister Trond Giske vil kartlegge alle mineralressursene i Norge.



## - Dette blir tidenes skattejakt i Norge

Forfatter: Espen Bjerke

- Publiseringsdato: Mar 13, 2013 12:30 PM
- Sist oppdatert: Feb 11, 2014 6:36 AM

Næringsminister Trond Giske vil kartlegge alle mineralressursene i Norge.

- Nå skal «arvesøvet» kartlegges. Målet er at 75 prosent av Norge skal kartlegges med avansert utstyr. Dette blir tidenes skattejakt i Norge, sa nærings- og handelsminister Trond Giske da han onsdag presenterte planer om å kartlegge alle mineralressursene i Norge.

Hølg mineralmeldingen Giske onsdag la frem, har Norges geologiske undersøkelse anslått verdien «i bakken» av kjente og undersøkte metallressurser som vurderes som lønnsomme å utvinne, til om lag 1 400 milliarder kroner.

I tillegg kommer industrimineraler, pukk, grus, kull og naturstein, som er beregnet til anslagsvis 1 100 milliarder kroner, og alle mineralforekomster som ikke er undersøkt.

Norge har en variert geologi med stort potensial for mineralproduksjon. Lang kystlinje og nærhet til det europeiske markedet er viktige konkurransefortrinn, mener Giske.

- Norge skal være et attraktivt land å drive mineralvirksomhet i. Myndighetene skal bidra med gode rammebetingelser. Mineralbedriftene må selv utnytte mulighetene. Mineralvirksomhet skal drives bærekraftig. Bedriftene må ta i bruk moderne teknologi og effektive driftsmetoder, sier Giske.

Mineralloven skiller mellom mineraler som er eid av staten og de som er eid av grunneier. Staten eier metaller med en egenvekt på 5 gram/cm<sup>3</sup> og over, samt malmer av silke metaller. Dette omfatter blant annet krom, mangan, molybden, niob, vanadium, jern, nikkel, kobber, sink, sølv, gull, kobolt, bly, platina, tinn, wolfram, uran, kadmium og thorium. Også arsen og titan er statlig eid.

Alle andre mineraler er eid av grunneieren. I hovedsak kan grunneiers mineraler deles inn i tre hovedkategorier; naturstein, byggeråstoffer og industrimineraler.

(Kilde: Stortingsmeldingen Strategi for mineralnæringen)

## Omstridt amerikansk radar ødelegger TV-signaler

I Vardo har folk gått grundig lei av at den amerikanske hysj-hysj-radaren Globus II lager hakkele og lurvete TV-bilder.



Slik ser fotballkamp ut på TV hjemme hos Arnt Edmund Jensen i Vardo. Nasjonal kommunikasjonsmyndighet er kjent med at den amerikanske radaren Globus II i Vardo har skapt problemer for å se TV for de med satellitmottakere i byen. FOTO: BÅRD WORMDAL

Bård Wormdal

Publisert: 27.09.2017, kl. 13:29

Probleme for Arnt Edmund Jensen starta for to-tre år siden. Bildene –begynte å bli helt skruklete-, gjeme i beste sendetid på lørdagskvelden.

Jensen trodde det skyldtes en gammel parabol og gamle kabler. Han bestemte seg for å gjøre noe med det.

- Jeg kjøpte en helt ny parabol. Det hele ble satt på plass av installatører, som monterte slik det skulle være. Likevel ble ikke problemet løst.

### Nære frekvensområder

Arnt Edmund Jensen ringte Nasjonal kommunikasjonsmyndighet for å høre hva årsaken kunne være. Han fikk bekreftet at frekvensområdet til radaren ligger nært fjernsynets satellitmottaker.

- Jeg spurte hva jeg skulle gjøre. Jeg fikk da beskjed om å ta kontakt med forurenseren, ansvarlig for de dårlige signalene.



Forsvaret og Etterretningstjenesten opplyste Vardo kommune hadde fått et belop som skulle gjøre at de husstandene som hadde problemer med TV-signaler kunne få dekket utgifter til innlagt fiberkabel for å få løst problemet.

- Jeg sendte i høst brev til Vardo kommune. Jeg forklarte hvor jeg bodde; huset ligger i samme høyde og parabolen min har rett utsyn til radaren. Noen dager etter får jeg brev fra kommunen om at saksbehandlingen kan ta opp til et halvt år!



Det er uklart om Arnt Edmund Jensen igjeri kan se klare TV-bilder. FOTO: BÅRD WORMDAL

- Repparfjorden er ingen søppelfylling - Aftenposten.no

08/11/2017, 11:56

+Pluss Nyheter Sport Kultur Meninger Radio Alta TV MENY

## - Repparfjorden er ingen søppelfylling

Miljøbevegelsen lar seg ikke vippe av pinnen.



INGEN SØPPELFYLLING: MDG eller seg svært kritisk til sapsosus i Repparfjorden, sier Rasmus Hansson (overst). Jan Tore Sanner mener Østfold fylkeskommune og Nussir legger seg til en forurengende, foru-nyttig og skapende. ROLF EDMUND LUND

- Repparfjorden er ingen søppelfylling - Aftenposten.no

NYHETER

PUBLISERT

21 DESEMBER 2016 16:00

SIKT OPPDATERT

21 DESEMBER 2016 16:00

Rolf Edmund Lund

08/11/2017

rolf@postboks.no

Miljøpartiet De Grønne er ikke overraskende sterkt kritisk til at myndighetene har gitt grønt lys for dumping av gruveavfall i Repparfjorden.

- Repparfjorden er en nasjonal laksefjord. Det er utrolig at den blir brukt som søppelfylling. Norge bør ha en gruvenering som tar hånd om avfallt sitt, ikke bare dumper det rett i naturen, sier partiets nasjonale talsperson Rasmus Hansson.

### I dårlig selskap

Papua Ny Guinea, Tyrkia, Indonesia, Chile og Norge er de eneste landene som tillater praksis med sjødeponi. Det mener Hansson er betegnende for situasjonen og presiserer at partiet ønsker aktivitet.

- Arbeidsplasser skal vi ha, også i gruveneringa, men vi bør stille de samme kravene til vår gruvenering som andre land, mener Hansson. Han mener det finnes teknologi for etterfylling og sikker lagring på land, som er langt mer miljøvennlig en løsningen Nussir legger opp til.

### Den samiske dimensjonen

Partiet er også opptatt av den samiske dimensjonen.

har vært så tydelig i sin kritikk, er det oppsiktsvekkende at regjeringen ikke vil lytte, heter det i en pressemelding fra MDG.

Sametingsråd Inger Elise Eriksen fastslår da også at Nussir-saken går videre.

- Departementets vedtak om å opprettholde forurensningstillatelsen til Nussir betyr ikke at saken er avgjort. Det kreves i tillegg tillatelse etter mineralloven og Fefo skal fatte vedtak om inngrepet er i tråd med finnmarsloven. Vi skal både uttale oss og konsultere om saken videre, sier Eriksen, som minner om at det er bredt flertall på Sametinget som er imot etableringen av en gruve i Repparfjord.

Inngrepet har store negative konsekvenser for miljø, bærekraftige næringer og samisk kultur, mener hun.

### Fornøyd statsråd

Statsråd Jan Tore Sanner i Klima- og miljødepartementet er på sin side glad for at utslippsstillatelsen blir opprettholdt.

- Kobber må det være til å få til det grønne skiftet, Sanner til Altaposten.

iFinmark - Det er nær tre år siden Kiberg vant kampen om parkforvalteren - fortsatt er det lite fart i bygda

08/11/2017, 11:39

iFinmark

Finmark - Det er nær tre år siden Kiberg vant kampen om parkforvalteren - fortsatt er det lite fart i bygda

08/11/2017, 11:39

ØST-FINNMARK

## Det er nær tre år siden Kiberg vant kampen om parkforvalteren - fortsatt er det lite fart i bygda



VIL HA FLERE: Varaordfører Terje Soløy (V) og Arnt Stæme ønsker et større fagmiljø på Kiberg skole. Først håper de Statens naturoppsyn vil flytte fra Vadsø, og at det kan føre til at flere vil se på mulighetene i Kiberg. Foto: Anniken Renold Sandvik

Av Anniken Renold Sandvik

20. august 2016, kl. 17:40

Artikkelen er over 3 år gammel

Varaordfører - Det er vanskelig å få styringen av parken hit så lenge NSO sitter i Vadsø.

KAMPANJE: iFinmark - Lut året for kun 10.

- Jeg vil ha flere kompetansearbeidsplasser hit til Kiberg.

Det sier varaordfører Terje Soløy (V) i Vardo kommune. Både i vinter og i sommer har han vikariert som ordfører i Lasse Haugthoms travar, og da har han benyttet anledningen til å be Miljødirektoratet om at Statens Naturoppsyns (SNO) aveling i Vadsø flyttes til Kiberg. Han tror det vil kunne være en utslående faktor for at Kiberg skal kunne bli det knutepunktet bygda er ment å være.

- Det er ingen tvil om at styringen av parken skal sjke ifra Kiberg. Men det er vanskelig å lenge NSO sitter i Vadsø, mener han.

### Litt her og litt der

Det nærmer seg nå tre år siden Kiberg fikk status som knutepunkt for Varangerhalvaya nasjonalpark. I mars 2012 ble Paul Lutnas ansatt som forvalter, og siden da har det vært jobbet for å få kontoret hans på plass i Kiberg. Men først neste uke innvier han sitt nye kontorsted på ordentlig, når nasjonalparkstyret holder sitt møte i lokalene på Kiberg skole. Det er mange grunner til at det har tatt så lang tid, forteller Lutnas.

- Da denne prosessen begynte, var det Vardo kommune som eide skolen, og de ble aldri enige med Fylkesmannen om en leiepris. Så kom det en ny løsning, da Arnt Stæme kjøpte bygget. Da det skjedd måtte Fylkesmannen man måtte legge kontorplassen ut på anbud i Kiberg, og invitere andre aktører til å komme med tilbud, og det tok også sin tid. Etter den rundten ble Arnt Stæme og Kiberg skole valgt, og deretter har vi holdt på med oppussing, forteller han.

Men tirsdag skal nasjonalparkstyret altså møtes i Kiberg, og med det sier Paul Lutnas at kontoret hans innvies. Likevel: Fordi forvalterens nærmeste samarbeidspartnere, oppsynsmennene i SNO, sitter i Vadsø, kommer Lutnas til å tilbringe mye tid på sitt gamle kontor.

- Jeg kommer til å være litt her og litt der, all etter hva som skjer, og hvor møtene skal være. Det er sannsynlig at jeg ville vært mer i Kiberg dersom SNO også var der, for det er de jeg samarbeider aller mest med. Fysiske møter er bedre enn å prate på telefon og e-post, sier han.

Han kunne godt ønsket seg et større fagmiljø i Kiberg.

- Jeg tenker jo at jo flere som har kontoret her, jo bedre. Men samtidig vil jeg ikke legge meg opp i hva andre aktører bestemmer for sine ansatte, sier han.

### Sikre inntekter

Men Terje Soløy og Arnt Stæme, som altså eier skolen som huser knutepunktet for nasjonalparken, er sikre på at en relokalisering av SNO vil føre til at flere melder interesse for Kiberg.

Soløy viser også til at Miljøverndepartementet i et brev i 2009 forutsatte at forvalteren skal samlokaliseres med andre fagpersoner til tjenestemånet.

- For det første vil flytting av SNO føre til at det blir lettere for forvalteren å jobbe fra Kiberg. I tillegg har Universitetet i Tromsø signalisert at de vil bidra med forskningspersonell, forutsatt at det finnes et større fagmiljø. Også universitetet i Arktangelsk har uttrykt et sterkt ønske om et samarbeid, forteller varaordfører Terje Soløy.

En ting som er sikkert, er at skolen snart vil få en nasjonalparkutstilling på plass. Her gir arkitektfirmaet Biotope den konkrete planleggingen, og det er foreløpig litt usikkert når den vil kunne bli åpnet.

- Vi hadde jo håpet at det kunne skje i august, men nå ser det ut til at det ikke blir før i september, forteller Arnt Stæme.

Han håper utstillingen vil kunne bidra til å gjøre Kiberg skole til et møtepunkt for turister i regionen.

- Og da kan vi snakke om guiding i nasjonalparken, fugleklikking, kafé. Det er mange muligheter, men det gjelder å ha noe sikkert i bunn. Det koster å drive dette byget også, så jeg er avhengig av noen sikre inntekter før jeg kan gå videre, sier han.



FOREGROUND: local public space / the local soccer field / Vardø / BACKGROUND: globus I / globus II / american radar system / restricted area / no photos allowed

# Appendix

## 5.1 Litterature

Purdy, Jedediah. *After Nature*. Cambridge: Harvard University Press, 2015

Jedediah Purdy is a professor of law at Duke University. Jedediah Purdy teaches constitutional, environmental, and property law and writes in all of these areas. He also teaches legal theory and writes on issues at the intersection of law and social and political thought.

A thought mediated in Purdy's book *After Nature* is the idea of a new epoch, the epoch of humanity, in which people are a force, maybe even the force, in the development of the planet. Leaving the Holocene era, now entering the Anthropocene. With this as a basis he pushes the increased importance of politics regarding the control and management of our landscape.

This was a text becoming highly relevant for this thesis when entering the geographical area of Finnmark, when faced with massive laws and legislations concerning both the *protection* of *pure nature* and the *extraction* of nature resources. Purdy especially emphasizes the importance of recognizing that we today let estetic, economics and environmental laws control our management of the landscape.

As I interpret the text, it deals with the vision of pristine wilderness as merely that, a perceived vision. Because everything is touched up on by human, even the areas left to be *pristine nature* is touched by human as a result of the very action of protecting and regulating.

The deromanticizing of nature that Purdy seems to call for, could translate into opening the Varanger Peninsula National Park entirely for research purposes. Not slowing down the research by not permitting certain instruments at certain locations because of a romantic notion of the pristine.

Bringing forward theories of the antropocene, the idea of the antropocene era being the era of humanity, in which people are a force that is substantial, is an understanding that further contribute to emphasize the importance of reflecting on our eco-system perception.

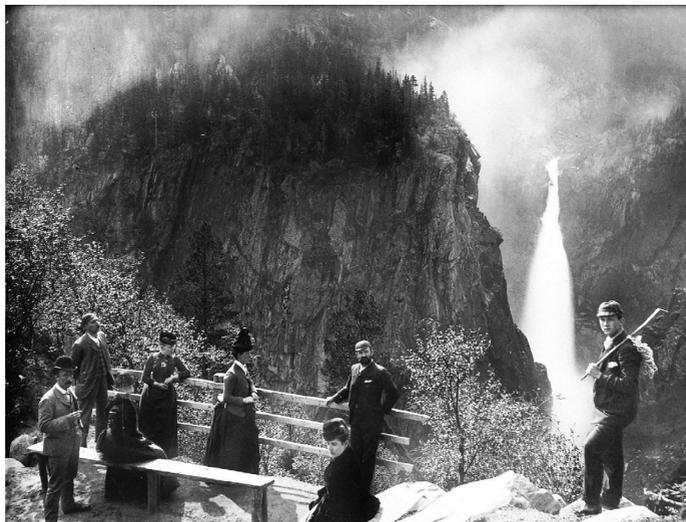
The key here is the awareness of being a part of something larger than you in both time and scale, but at the same time realizing, that you, as human, have the skills and power to change ecological trajectories.



Raet National Park - southern Norway



Where does nature end and culture begin? CAS research group.



Reflections on this subject are not new. Photographer Knud Knudsen 1872

## Appendix

### 5.1 Litterature

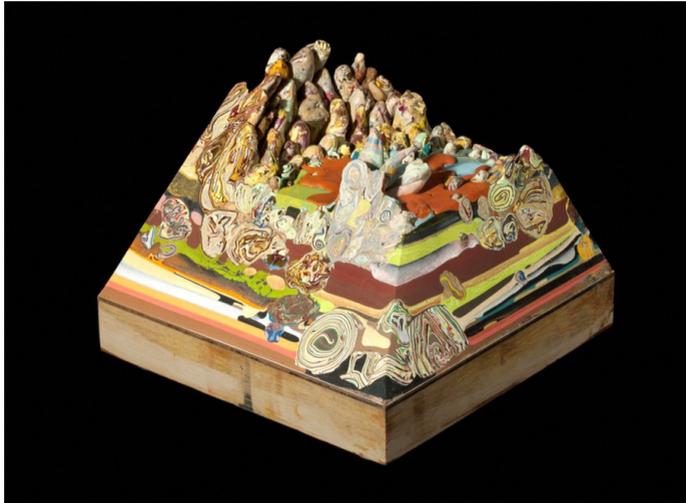
Larsen, Janike. 'Geologic Presence in a Twenty-First-Century Scenic Garden'. *Studies in the history of gardens & designed landscapes*. 2014: 34 (1). 85–100

Janike Kampevold Larsen is associate professor in the Institute of urbanism and landscape. Specializing in landscape theory and particularly the configuration and conceptualization of contemporary landscapes. She is project leader of the Future North.

What becomes very relevant for my thesis I am approaching reading this text is the formulation of the diverging landscape when situations in Norway, and particularly with Northern Norway as an example. Introducing the concepts of *scenic landscape* and *extraction landscape* and presenting a set of contemporary situations building this argument. How would a synthesis between these two diverging landscapes notions look like? As Larsen points out the increased interest in the circumpolar territories and the pressure following the emergence of previously inaccessible resources now becoming accessible because of climate change. This points at the vulnerabilities of these areas as a direct consequence of these changes. And then its opposite situation, the scenic landscape projecting totally different trajectories. Just as commodifying, but on totally different premises. Using the Norwegian Tourist Route Project to exemplify a tradition of staged, animated and furnished scenes being instruments for making the landscape a object of our gaze.

The text points out important points, both time and scale wise. "These two landscapes appear to reference different time frames: while extraction landscape can be read as a territory for the global energy market oriented to the future, the scenic landscape offers panoramas based upon the European landscape traditions of the past" (p.86)

She criticises the fact that TRP (The Norwegian Scenic Routes program by National Road Authorities) are being staged and marketed according to old traditions of travelling and viewing and only a few of the Touris Projects relates to the geologic history or the true materiality of the sites not being able to communicate a potential of a sense of deep time. This suggests to me to avoid the pure static visual experience in order to explore ecological awareness.



Laura Moriarty, Subduction into Trench, 2010, Encaustic on panel



Geopoetry, from Geologic City: A Field Guide to the GeoArchitecture of New York, smudge studio 2011

## Appendix

### 5.1 Litterature

**Ellsworth, Elizabeth, Jamie Kruse, Smudge Studio.** “Motivations, Provocations Humans assembling with the geologic.” I: *Making the Geologic Now*, redigert av Ellsworth, Elizabeth, Jamie Kruse. s. 5-24.

Elizabeth Ellsworth is an artist and Professor of Media Studies, The New School for Public Engagement, New York City. Jamie Kruse is an artist, designer and part-time faculty at Parsons, The New School for Design (New York, NY). Ellsworth and Kruse are co-directors of smudge studio, a nonprofit media arts and design collaboration started in 2005.

*“To invent and enact practices capable of acknowledging and living in responsive relationship to forces of change that make the world”.*

In this essay they claim that people can imagine deep time and site-specific material realities and through this perception alter mind trajectories, imaginations, and experiences of ourselves and our eco-surroundings. This becomes an extremely interesting possible approach when searching for ways to investigate spacially how to communicate the work of the climate change reserach program.

As J. Larsen states, what they describe is the opposite of the experience accessible through most of the Norwegian Scenic Routes projects as of today. Where you are set at a theatrical distance, observing, merely visually experiencing the landscape. Ellsworth and Kruse describe the landscape they move through in Lofoten as oblivious to the existence of them as its beholders. As soon as something shows awareness of it being observed, it looses its credibility.

*“We sensed our exposure to this place’s raw materiality directly, yet the force was everywhere. It did not single us out. In fact, it seemed terribly indifferent to our existence.”*

Smudge Studio Lofoten Travel Note. <https://fopnews.wordpress.com/2011/05/21/lofoten/>

# Appendix

## 5.2 Project

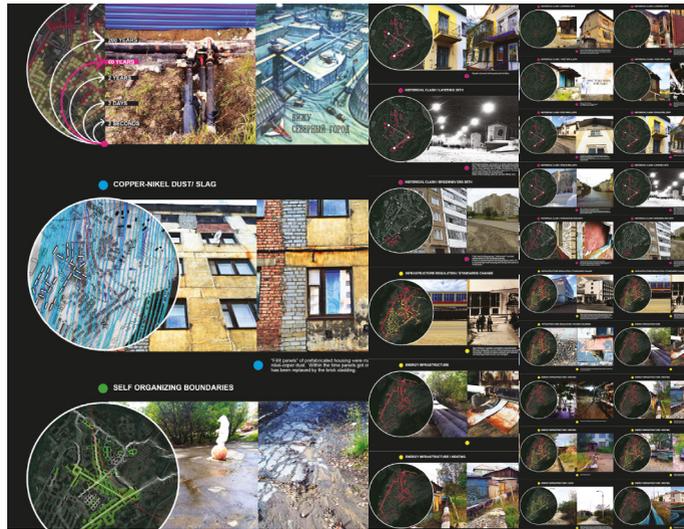
Tatjana Gorbachewskaja, Katya Larina, Nickel Materiality, Dark Ecology 2015  
Commission  
Nickel Material Culture, Industrial Mining town North Russia  
-a commission for the second Dark Ecology Journey (2015)

Tatjana Gorbachewskaja (RU) architect and urbanist, grew up in Nickel.  
Katya Larina (RU) architect and urban designer.

The project consists of a catalogue of an emergent symbiosis of the natural environment and alien materials which were brought in through human activity in the city Nickel in Russia

It presents the study of a situation and area of extreme human-made disturbances to the eco-system. However, what makes it even more interesting is the emerging result of the power of *nature* restoring itself even in such an extreme case. A process of emergent symbiosis of the natural environment and alien materials brought in by severe human intervention in the form of the extraction of the natural resource Nickel (Ni28) through severe mining, the town being named after this very material. The artificial was eventually forced to “interact directly with the natural conditions of the unique Arctic climate and ecosystem. Nickel’s artificial materiality was forced to adapt to survive.” (Gorbachewskaja, 2015)

This project is also worth analyzing for the challenge of collecting a lot of information, and then making it available, appreciated and useful in a global and local discourse. Tatjana Gorbachewskaja and Katya Larina illustrate this idea through thematic maps and catalogues. The series of maps and artefacts will be published on an online platform. During the second “Dark Ecology Journey” Gorbachewskaja and Larina presented their research in the form of a talk and a conceptual walking tour through the city of Nickel. Available documentation, an archive, a catalogue are illustrative and informative.



### LANDSCAPE:

Highly polluted territory of the factory, all ground covered by toxic nickel-copper dust.  
Interesting that is on the paths of the rain water run-off, the bio culture is growing. The water is containing some organic substrates that are enough for the basic vegetation growth.

### NICKEL MATERIALITY:

The sample is showing natural utilisation of the patition that is already taking place in Nickel.  
It is a composite of the vegetation and oxidizing bacteria that are solidifying the new material.  
The principle can be used for the bio-printing experiment.



## Appendix

### 5.2 Project

**Farah Aliza Badaruddin, Master Architecture thesis**, Bartlett School of Architecture / Triggered lightning technology at the University of Florida's Lightning Research

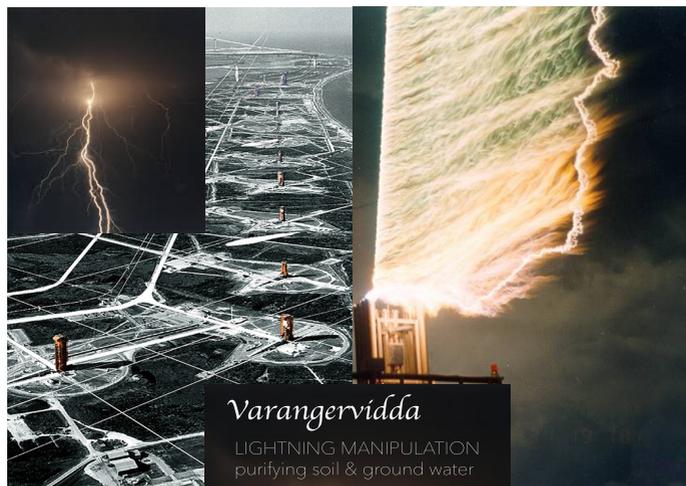
University of Florida's Lightning Research  
**Triggered lightning technology**

Existing research and technology at the lightning farm of the University of Florida's Lightning Research program meets a speculative vision of an opportunity to manipulate the force of lightning into restoring ecological damaged soil and ground water. So established human science and knowledge expanded to look at future scenarios where human interference with nature could be within the category of beneficial, or even meaningful.

The testing of the theory that lightning can be harnessed on-site to pyrolyse highly contaminated groundwater as an approach to remediate the polluted site. The controlled and repetitive lightning strikes could also, in turn, help fertilize the soil, producing a kind of bio-electro-agricultural event.

In connection with this, visiting facilities are designed to make information attainable and appreciated. The experience of the process of forces moving from high atmosphere to deep earth is strong. It is a statement, we could actually make difference facing the extreme forces of climate change.

At the same time the project visualizes a new kind of landscape of leisure, far from established esteties and the typical postcard or Instagram update you would give friends and family when out travelling in areas like Varanger, Northern Norway.



<http://www.lightningsafety.noaa.gov/photos.shtml>

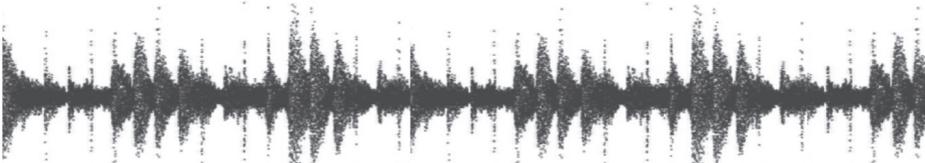
<http://www.telegraph.co.uk/travel/activity-and-adventure/The-northern-lights-Trip-of-a-Life-time/>

<https://www.cntraveler.com/stories/2011-11-07/best-places-to-stay-to-see-the-northern-lights>

<http://auneforlag.no/produkter/finnmark/nordlys>

see // **hear** // smell // taste // touch // somatosensory

// thermocept // propriocept // nocicept //  
mechanorecept // equilibrate



## Appendix

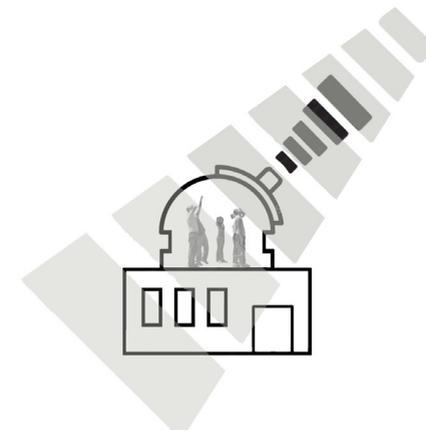
### 5.2 Project

Raviv Ganchrow, is a sound artist and researcher focusing on interrelations between sound and space. *Long Wave Synthesis*. Installed at: Sonic acts Festival (art, music and science), Høybuktnoen, Sør-Varanger 2015

Ganchrow created a topography of amplified long wave sounds: the tectonic plates moving / avalanches sliding / earthquakes trembling / volcanoes erupting / icebergs calving. This topography of sound focuses on the sounds in the lower threshold of human hearing. A new type of landscape emerges, putting the visual landscape in the background. Connecting beyond what you are able to perceive through your eyes. Could similar measures give access to ancient and futuristic visions in spite of

The project is interesting because it puts us in a larger context and provides a different entry points challenging ways of perception by moving away from the visual.

The way he creates a space for studying the relations between how we perceive the landscape and long-wave vibrations is relevant when wanting to reflect on the challenging we as human face when trying to grasp incomprehensibel sizes in both time and space.





timber processed / kreosot impregnated / chopped re-use / drifting / ocean sculpted / vardø shore resting

# Image References

## 6.1 List

Google Landsat / Copernicus  
Instagram #Bergebyelva

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Collage, made by author

<http://www.nord-salten.no/no/nyheter/naring/hogst-i-bratt-terreng.1797>  
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# 1 Introduction

## 1.1 Project Introduction

### **Climate-Ecological Observatories for Arctic Tundra**

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Location: **Vadsø**, Finnmark, Northern Norway  
iVAARNatur:urbanEcoObservatory

The project consists of two parts:

#### I Pre-diploma: Research

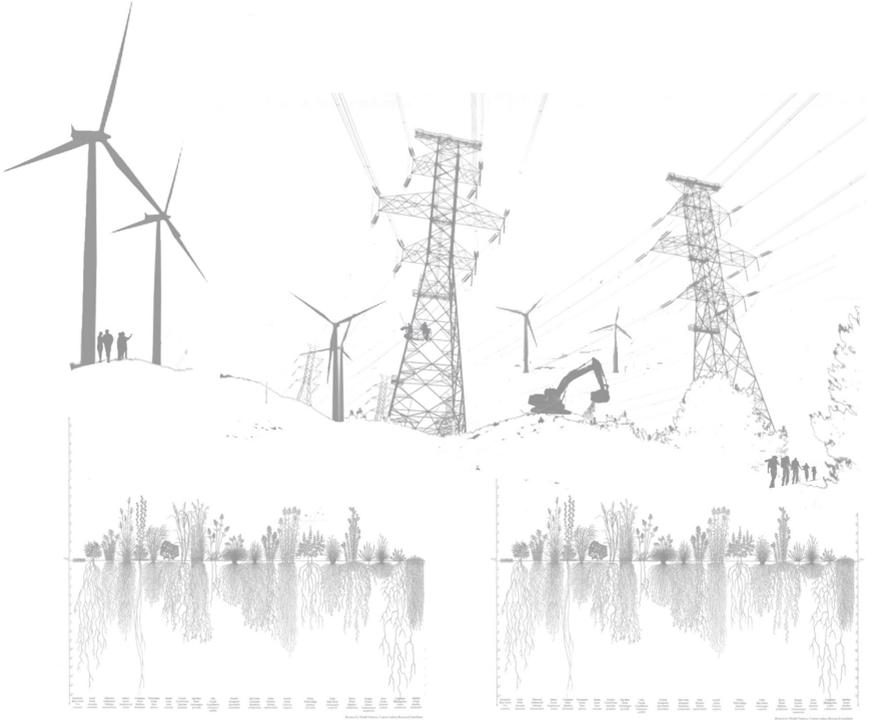
Presenting initial research and mapping concerning the subject of the relationship between human and nature and the geographical area.

#### **II Diploma: Project**

**Visualizing a combined urban, spatial, knowledge strategy and includes a set of designed interventions.**

The strategy I propose in this booklet is fictional, but based on actual information collected by me during a period of approximately one year working intensely on this project, my diploma thesis at The Oslo School of Architecture and Design. This is as such my interpretation of this collected information presented as a possible scenario for Vadsø.

It therefore have to be taken into account the possibility of collected information being wrong or misinterpreted. Feel free to give me feedback if you discover any misinformation presented in this project presentation.



<https://midwestplants.org>

# Content:

## **1 Introduction**

1.1 Project Introduction

## **2 Geographical context**

2.1 Arctic Norway

2.2 Varanger Peninsula / Local actors

2.3 Vadsø

2.4 **Vadsø / COAT Research program**

## **3 Urban strategy**

3.1 COAT + Local actors

3.2 Local strategy

## **4 Design strategy**

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4.2 VARANGERLAG Common hub

4.3 Seafront Greenhouse

4.4 Vadsøya Eco-science garden

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5.2 On the Notice board

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6.2 Photo series

## **7 References**

7.1 Photos

7.2 Thanks to

# 1 Introduction

## 1.1 Project Introduction

### Climate-Ecological Observatories for Arctic Tundra

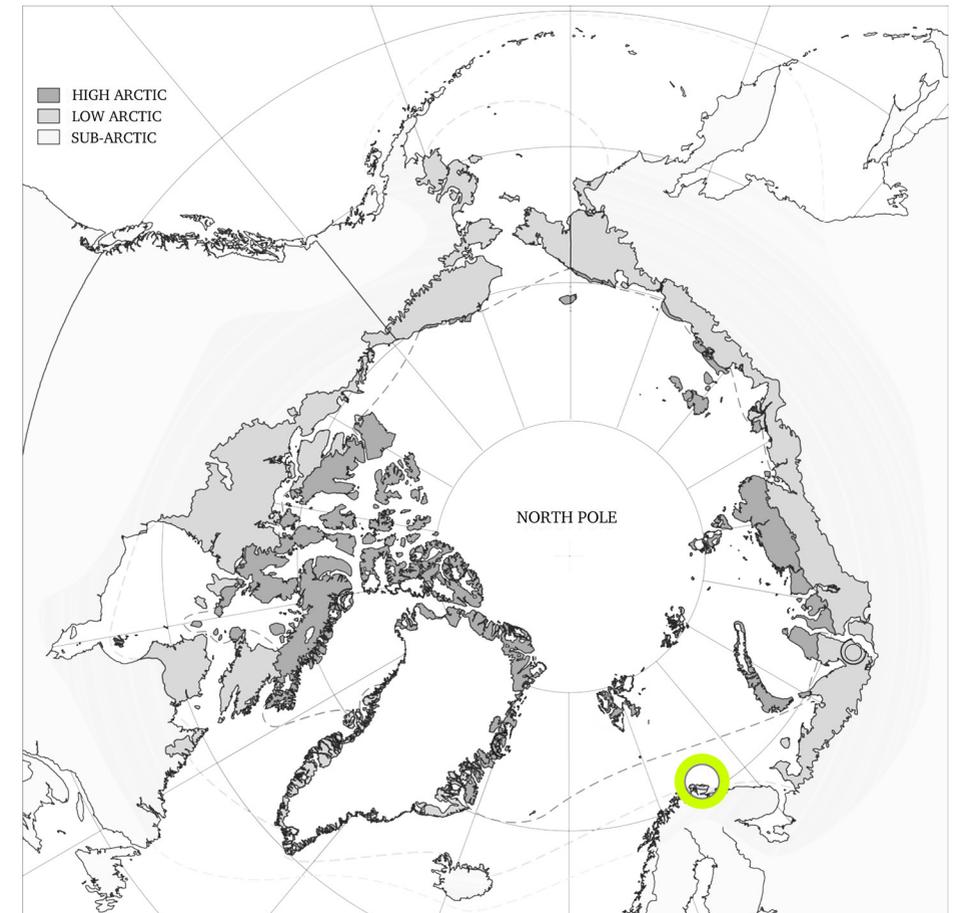
This project is informed by discussions of the relationship between human and nature based on considerations of eco-system management, sustainable development and climate change on a local level. The project explores how to interpret and disseminate the results of a global research program such as COAT, making it relevant locally, seeking to use the research program in an extended version as catalyst in an urban development strategy in a community of uncertain future trajectories.

The project is situated in Vadsø and visualizes an urban development strategy, including a set of designed interventions which acts as a feasibility study of how the strategy could manifest spatially.

The strategy is to extend the local intentions of the international research initiative, Climate-Ecological Observatories of Arctic Tundra, to communicate their climate change findings. I extend their strategy by 1) designing new modes for communicating the research produced, and 2) expose the abundance of approaches and knowledges on nature held by local actors, highlighting competing perspectives on the relationship between people and nature. It thus also investigates how such a program can become a strategy for urban development in a community of uncertain future trajectories.

# Geographical context

## 2.1 The Pan Arctic

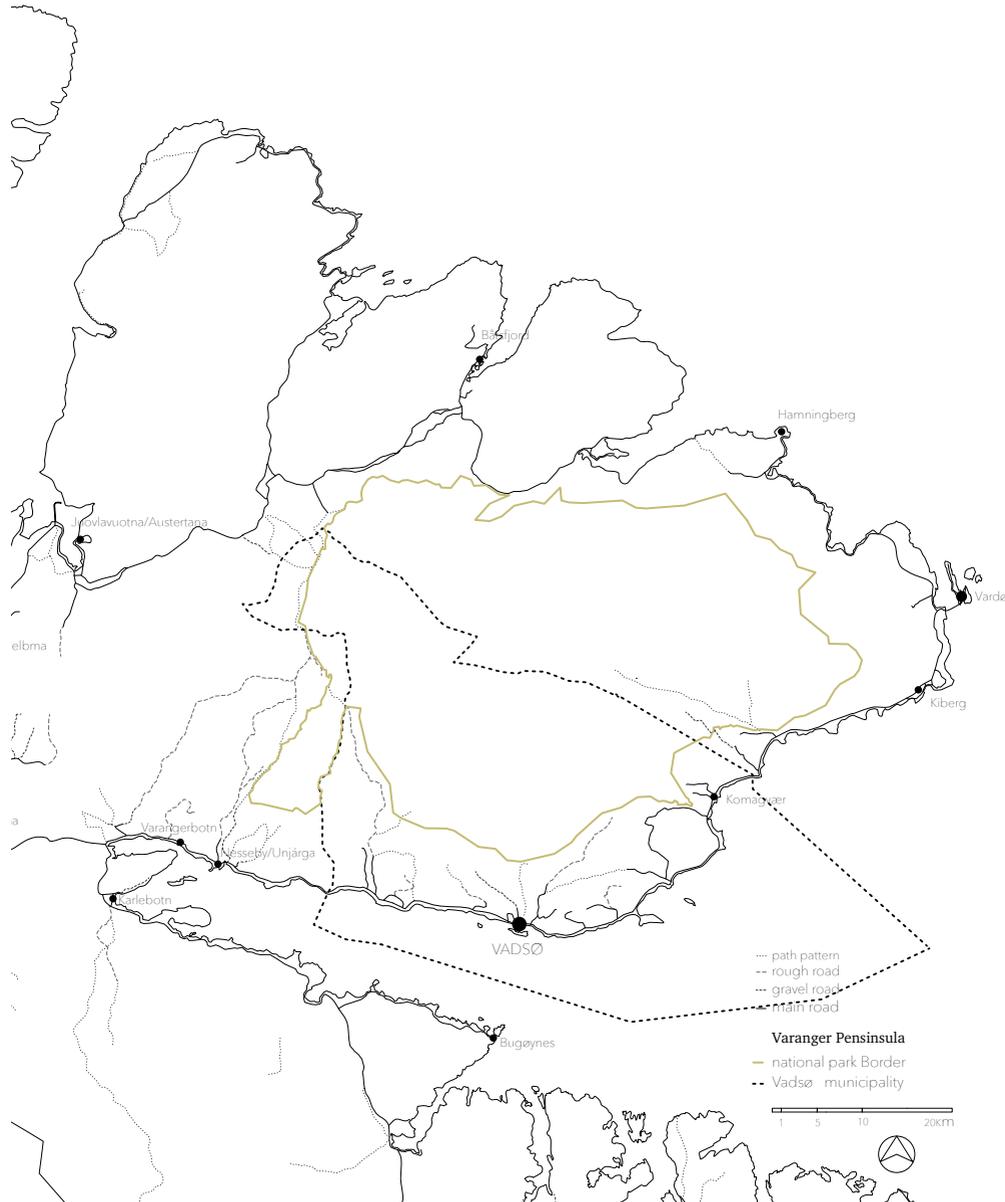


Varanger Peninsula

The project is situated in Vadsø, on the Varanger peninsula in arctic Norway.

# Geographical context

## 2.2 Varanger Peninsula Vadsø municipality



# Geographical context

## 2.2 Varanger region / the Varanger Peninsula



The **Varanger region** is the most eastern part of Finnmark county. It is not a precisely defined area, but usually Varanger is considered to include the entire Varanger peninsula and otherwise the areas around the Varangerfjord. This includes Berlevåg, Båtsfjord, Vardø, Vadsø, Nesseby og Sør-Varanger.

**Varanger Peninsula** is a peninsula in Finnmark county, and the largest one in Norway. The peninsula has the Tanafjorden to the west, the Varangerfjorden to the south, and the Barents Sea to the north and east. The Varangerhalvøya National Park covers a major part of the land on the peninsula.

The landscape here was mostly shaped before the last Ice Age. The geology is peculiar. Plant life and animal life as distinctive as it is sparse. Reindeer husbandry being practiced. This landscape makes you reflect upon scarcity. And deep time.

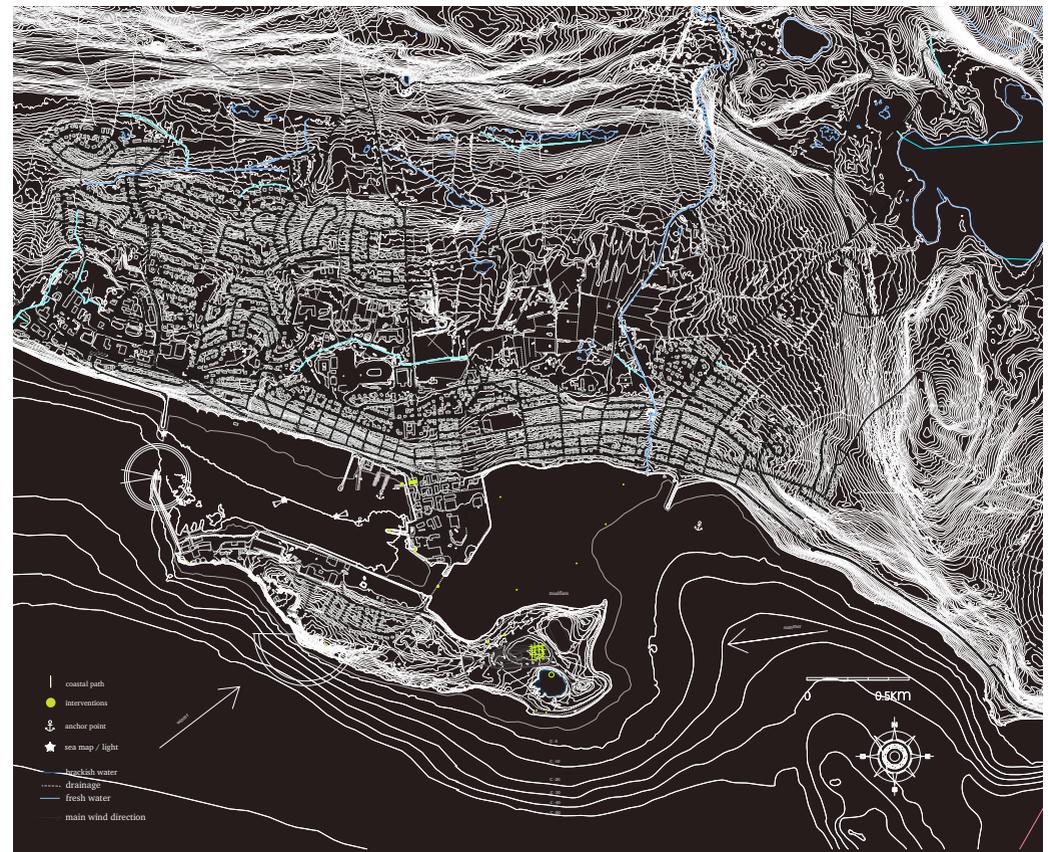
# Geographical Context

## 2.3 A map of Vadsø centre



# Geographical Context

## 2.3 A map of Vadsø centre



# Geographical context

## 2.3 Vadsø municipality and city



**Vadsø Municipality**  
Varanger, Finnmark



### Vadsø

(nordsamisk: áhcesuolu gielda, kvensk: Vesisaaren komuuni) is the administrative centre of Finnmark and is located on the south side of The Varanger Peninsula, and on the north side of the Varangerfjord.

The municipality has 6160 inhabitants, 5064 living in the centre of Vadsø.

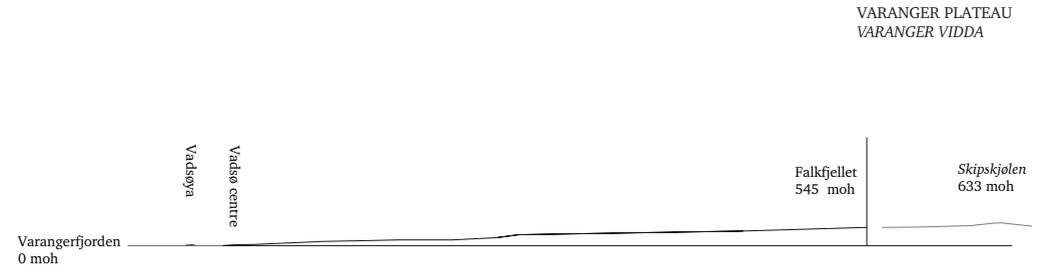
Most distinct landscape features being the defining southern border of the coast line and to the north the vast but not steep plateau stretching beyond.

The fishing community evolved into a city of trade and commission through the 1700s and was given a city status in 1833. Today Vadsø still has the identity of both an administrative centre and a fishing community, but both project uncertain future scenarios.

# Geographical context

## 2.3 Vadsø

Most distinct landscape features being the defining southern border of the coast line and to the north the vast but not steep plateau stretching beyond.

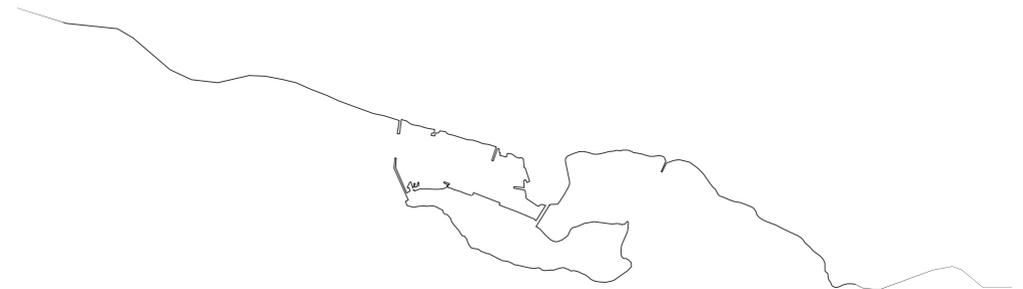


vat(n)s-øy øen med vannet

*named after the island Vadsøya, Norse Vatsøy, Vassøy (Water Island). The name appears several places along the Norwegian coast, which could indicate you would find fresh water on the island.*

TOTAL 1 258 m  
LAND 1 237 km  
WATER 21 km

INHABITANTS 6 160  
CENTER 5 064  
PERIFERI 1 096



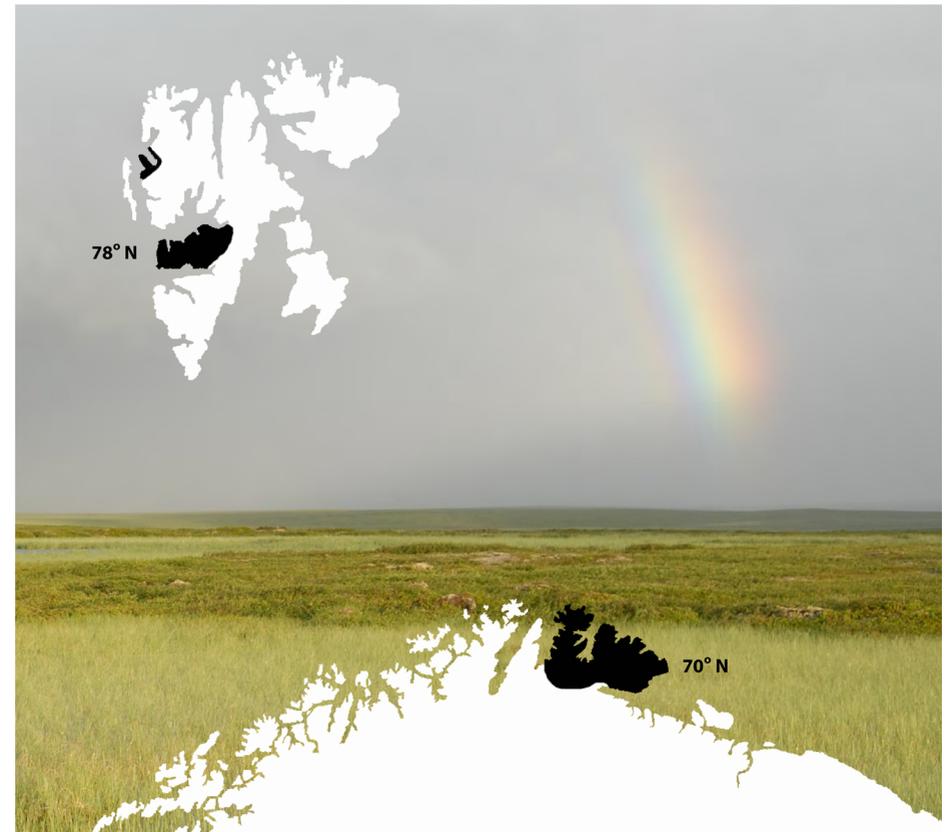
VADSØ COAST LINE  
VADSØ KYSTLINJE

# Geographical context

2.4 VADSØ + Climate-Ecological Observatories for Arctic tundra



**Science Plan for COAT:**  
Climate-Ecological Observatory  
for Arctic Tundra



**FRAM** – High North Research Centre  
for Climate and the Environment

# Geographical context

## 2.4 Climate-Ecological Observatories for Arctic tundra

My project aligns with the international research program of COAT (short for Climate Ecological Observatories for Arctic Tundra). COAT researches climate change by monitoring the biome border between taiga and tundra intersecting the Varanger Peninsula. Their local office is already located at Statens hus in Vadsø.

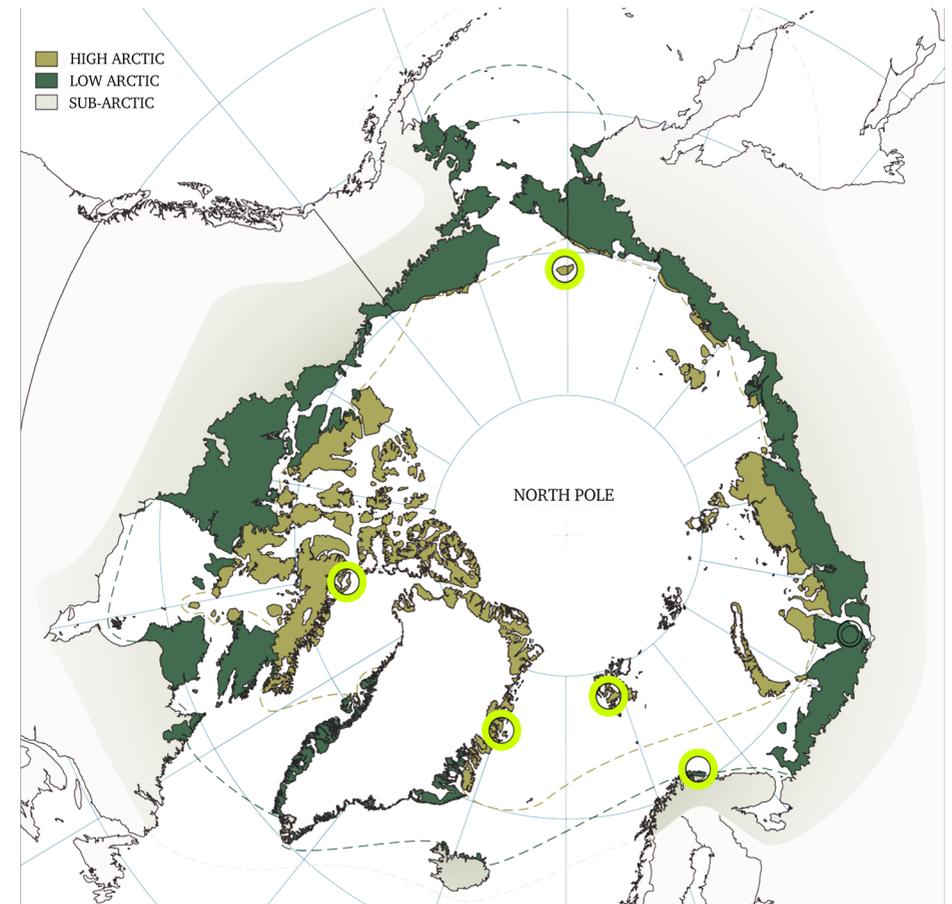
### VADSØ -

The Arctic Capital of **Climate change knowledge**

Their work at the Varanger Peninsula consist of collecting information data through field work. The biome border, visual as the treeline provides a hot spot for climate change monitoring. With collaborative laboratories in Canada, Greenland and Russia this makes Vadsø a part of an important circumpolar effort to understand climate change and provides an opportunity to assert itself as the **Arctic capital of Climate change knowledge**.

# Geographical context

## 2.4 Climate-Ecological Observatories for Arctic tundra



The sites of COAT: **Varanger Peninsula** and Svalbard.

Collaborating observatories: Zackenberg (Greenland), Bylot Island (Canada), Ostrov Vrangelia & Erkuta (Russia)  
All located in the tundra/taiga biome border zone - Climate change hot spot

# Urban strategy

## 3.1 Climate-Ecological Observatories for Arctic tundra

My project is an extension of COAT's local strategy, which is to communicate climate change knowledge within the community. I extend their strategy by 1. designing new modes for communicating the research produced along the surrounding biome border, and 2, bringing in the abundance of approaches and knowledges on nature held by local actors. Highlighting competing perspectives on the relationship between people and nature.

The development of the program has not been a preliminary exercise but an important part of the development of the project design itself. Developed through fieldwork, research and continuous conversations with the COAT research team and a wide range of local actors in Vadsø, the program became the core of the project strategy and in the end the generator of form.

In the process of locating local actors it became very clear how - for the local community - knowledge of the territory and awareness of individual spheres of action and reflections, is key to ownership, responsibility and environmental care.

My project therefore takes the position that this is not only about objectively observing and describing change as traditionally represented by researchers, but how landscape is produced and becomes meaningful to all local actors.

# Urban strategy

## 3.1 Local actors / Landscape investments Regional level - Varanger Peninsula



# Urban Strategy

## 3.1 COAT + LOCAL ACTORS / Landscape investments Regional level - Varanger Peninsula

### Varanger Peninsula National Park

Varanger Peninsula National Park (northern sami: Várnjárga) established in 2006 is a norwegian National Park in the sub-arctic mountain landscape of Finnmark. On the Varanger Peninsula, inbetween Syltefjorden og Varangerfjorden. It covers an area of 1804 km and is situated in the municipalities of Båtsfjord, Vardø og Vadso.

### Nature Agenda

Established "to preserve a large untouched area of nature, nearly free of human interference".



### Climate Ecological Observatory for Arctic tundra

#### The COAT Research Program

##### 1.1 Global Agenda

Global agenda "The rapid shift to new climate regimes is likely to give rise to new ecosystems with unknown properties, making science unable to accurately predict the consequences. (...) This realization has led to urgent global calls for the establishment of scientifically robust observation systems that enable real time detection, documentation, understanding and actions(...)"

##### 1.2 Local Strategy

Societal involvement / Community outreach

Local agenda "(...)a structured scheme for involving stakeholders, policy makers and management authorities, as well as a protocol for monitoring changes in the public perception and use of ecosystem services and nature. This monitoring system of the socio-ecological system will partly be web-based and partly be based on observations and interviews".

from Climate Ecological Observatory for Arctic Tundra Research Program report, 2016.

### COAT Climate-Ecological Observatories for the Arctic Tundra Fieldwork



Listening Station, Grouse module



Possible location of Weather Station



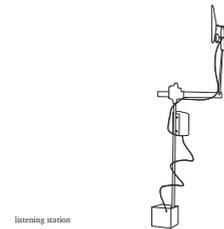
Example of Weather Station



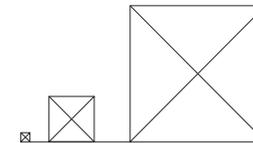
Temperature Measurements

# Urban Strategy

## 3.1 COAT + LOCAL ACTORS / Landscape investments Regional level - Varanger Peninsula



listening station



intensive square



Image Name	Location	Trigger	Date	Temp_C	Humidity	Wind	Year	Wind	Humid
2013-08-24 14:08:05 M_1_3L.JPG		Temp_C	24.08.2013	14.0	0	0	0	0	0
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2013-08-24 14:08:05 M_1_3L.JPG		Wind	24.08.2013	14.0	0	0	0	0	0
2013-08-24 14:08:05 M_1_3L.JPG		Year	24.08.2013	14.0	0	0	0	0	0
2013-08-24 14:08:05 M_1_3L.JPG		Wind	24.08.2013	14.0	0	0	0	0	0
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2013-08-24 14:08:05 M_1_3L.JPG		Humid	24.08.2013	14.0	0	0	0	0	0
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2013-08-24 14:08:05 M_1_3L.JPG		Humid	24.08.2013	14.0	0	0	0	0	0
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2013-08-24 14:08:05 M_1_3L.JPG		Wind	24.08.2013	14.0	0	0	0	0	0
2013-08-24 14:08:05 M_1_3L.JPG		Humid	24.08.2013	14.0	0	0	0	0	0
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2013-08-24 14:08:05 M_1_3L.JPG		Wind	24.08.2013	14.0	0	0	0	0	0
2013-08-24 14:08:05 M_1_3L.JPG		Humid	24.08.2013	14.0	0	0	0	0	0
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# Urban strategy

## 3.1 LOCAL ACTORS / Landscape investments

Local level - **Vadsø**

COAT has a scientist's approach towards nature, producing a certain type of landscape. The energy supplier, the storyteller, the curator, the gardener, the hiker, the herder or the hunter produce different ones.

The project explores a city development strategy that pays attention to these physical, cultural and social identities that defines the landscape. In this way many of them get to play out and strengthen their connections in ways that make ongoing changes evident and enable local agency in deciding the future.

I have made a selection of local actors, and highlighted them to particularly inform the program of the COAT local strategy. Still all of them are equally important. Vadsø is famously known for its many lag og foreninger – meaning unions and organizations. My idea is to provide a space and a common union named VARANGERLAG where all lag og foreninger small or big can participate, access or visit.

The word Lag in Norwegian means a group or team of common ground, closely related to the spirit of volunteer work and a proudness of identity linked to place.



# Urban strategy

## 3.1 LOCAL ACTORS VADSØ / Varanger Peninsula

COAT + Local Lag & organizations = VARANGERLAG common hub  
(list from Frivillighetsregisteret i Brønnøysund)



LOCAL ACTORS/  
LANDSCAPE INVESTMENTS  
and a common hub:  
Info point /Meeting space / Workplace  
Added program - elements and spaces are coloured



### The VARANGERLAG hub

COAT  
Climate-Ecological Observatory for the Arctic Tundra



VARANGERLAG hub  
4 x desks  
1 x meeting room / learning space  
1 x small laboratory  
1 x city centre green house  
Vadsøya Science Garden  
The Blue Pavilion



SNO - Statens Natur Oppsyn  
Norwegian nature surveillance  
VARANGERLAG hub  
1 x desk



VNP - Varanger Nasjonalpark styre  
Varanger National Park Directory  
VARANGERLAG hub  
1 x desk



Hagelagene (Local Gardening Association)  
Vadsø Hagelag / Skogsholmjordets venner  
VARANGERLAG hub  
1 x city centre Green house  
Vadsøya Science Garden



FIKARLAGET NORD

DNT - Norwegian Tourist Association  
Tourist Info  
INFO space  
Hytteforeninger:  
Local cabin owner org.  
Varanger Kite Club, the VAKE event  
Annual event at VarangerLag



Vadso skilubb  
Vadso Skiing Association  
Snø-scooter Foreningen  
Snow mobile Association  
Badeklubben: Local bathing club  
Varanger turlag  
Båtforeninger: Boat owners org.  
VeliHavn: Guest harbor, 20 spots

Colour indicates variations of added program and/or and design



# Urban strategy

## 3.1 LOCAL ACTORS VADSØ / Varanger Peninsula

List of local Lag & organizations (from Frivillighetsregisteret i Brønnøysund)

Locations: A few of the larger and/or more commercial unions or organizations has offices or somehow other established spaces for meeting. The smaller ones are organized around a social structure and has no headquarter connected to a physical space.



Beitelag: Reindeer herders  
Jeger og Fiskerforbund: Hunting and fishing  
Nordre Varanger Bondelag association  
Farmers organization  
Varanger Kraft



Local Power Company  
VARANGERLAG hub  
Satellite exhibition space  
Highlighting green development

NORDRE VARANGER  
BONDELAG



Vadso Fiskerlag  
Vadso Coastal fishing fleet Association  
Vadsøbruk fiskemottak, Domstein building  
Fish Processing Centre  
Varanger Bærplukkerlag  
Ut og plukk - Berrypickers  
VARANGERLAG hub  
A common info point and a meeting space  
The Blue Pavilion



Historielaget  
Local History Club  
Varanger Museum  
VARANGERLAG hub  
Satellite exhibition space  
Temporary exhibitions  
On human and environmental awareness  
Vadsøya Science garden  
Bunker Observatories



VARANGERLAG hub  
LAG&forening meeting space  
Clubs and associations of Vadso/Varanger citizens  
An open common space + 2 private units  
Available for booking and drop-in use.



Frivillighetssentralen Volunteer Centre  
Existing program in this building.



Education and knowledge  
School, primary and secondary level, Vadso Ungdomslag  
Next generation learning  
Citizen Science (a part of COAT local strategy)  
MiljøCamp #You Explore 2018  
event at VarangerLag / Blue Pavilion  
VARANGERLAG hub  
Laboratory learning space



The Science Garden  
Blue Pavilion



Colour indicates variations of added program and/or and design



# Urban strategy

## 3.2 LOCAL STRATEGY: COAT + LOCAL ACTORS

A selection of **knowledge systems**



COAT  
Climate-Ecological Observatory  
for Arctic Tundra

### Investments / Knowledge / Ownership

A selection of active local actors and associated processes has been made to establish a structure for the scenario representing a varied spectre of local knowledge systems. It will also be the foundation for the the proposal for the program of the physical space *The VarangerLag hub*.



VARANGER KITE CLUB  
Annual Event: VAKE



VADSØ HAGELAG / Ytrebyhagen  
Skogsholmjordets venner



Local fishery



Domstein fish processing centre

LOCAL MARIN KNOWLEDGE  
Vadsø Fiskarlag  
Vadsø Havn KF

# Urban strategy

## 3.2 LOCAL ACTORS: COAT + LOCAL ACTORS

### VADSØ / Varanger Peninsula

List of local *Lag & organizations* (from Frivillighetsregisteret i Brønnøysund)

The selection was made emphasizing local presence and agenda of the individual local actor in combination with the intention of uniting a group of diverse and contrasting knowledge perspective on landscape and nature resources.



VARANGER MUSEUM  
Avd. Vadsø



FRIVILLIGHETSSENTRALEN  
Avd. Vadsø



VARANGER KRAFT  
Headquarter in Vadsø





## Urban strategy

### 3.2 COAT + LOCAL ACTORS

Investments / Knowledge / Ownership

Initial selection of  
LANDSCAPE INVESTMENTS /  
LOCAL ACTORS

Klimaøkologisk Observasjonssystem for  
Arktisk Tundra - COAT



**Local office:** Vadsø centre  
Main office: Tromsø, Fram Centre

Fram Centre  
COAT

**COAT in Vadsø.** COAT represents a modern ecosystem approach. A part of this being their strategy towards the local community and its actors.

They have established a structured scheme for involving stakeholders, policy makers and management authorities, as well as a protocol for monitoring changes in the public perception and use of ecosystem services and nature. on integrating research with education at levels ranging from primary school to PhD courses.



## Urban strategy

### 3.2 COAT + LOCAL ACTORS

Investments / Knowledge / Ownership

An initial selection of  
LANDSCAPE INVESTMENTS /  
LOCAL ACTORS

**FRIVILLIGSENTRAL**  
LOCAL VOLUNTARY CENTRE



**VADSØ TORG**



● **Local office:** Tollbugt 11, Vadsø Torg

#### ● THE NEW LOCATION OF THE VARANGERLAG HUB

Frivilligsentral is a part of a network of voluntary centres that spans the country. It is a local centre for participation in voluntary work contributing to the local society by fostering and developing volunteerism. The volunteer work would typically be more socially than financially targeted.

Services offered could typically be food delivery, snow shoveling, garden maintenance for those not able to do so themselves, hiking groups, language and integration initiatives, fundraising, help with homework, café etc.

This way it functions as a focal point for voluntary work, at the same time as being an important social spot in a small town like Vadsø. Frivillighetssentralen in Vadsø is located in the small shopping mall called Vadsø Torg right next to the city hall square.

The combination of having a good location right in the middle of city centre and a already well developed social infrastructure and services connected to it makes this a well suited possible location for the VarangerLag Common Hub.



## Urban strategy

### 3.2 COAT + LOCAL ACTORS

Investments / Knowledge / Ownership

An initial selection of  
LANDSCAPE INVESTMENTS /  
LOCAL ACTORS

**VARANGER MUSEUM**  
/avd. Vadsø



INVESTMENTS / KNOWLEDGE / OWNERSHIP

Varanger Museum consists of three departments, located along the Varanger Fjord in Vardø, South Varanger and Vadsø. The museum documents and presents the multicultural history of the region. All departments undertake work on the local history of their respective areas at the same time as functioning as a unit.

They have an existing presence, a location in Vadsø, and an established infrastructure as a part of Varanger Museum and as a part of a worldwide museum network

As a local institution they are a manager of local history, creating awareness around history and identity in Vadsø and the surrounding landscape of Varanger. They possess expertise on dissemination of knowledge.



## Urban strategy

### 3.2 COAT + LOCAL ACTORS

Investments / Knowledge / Ownership

An initial selection of  
LANDSCAPE INVESTMENTS /  
LOCAL ACTORS

VADSØ HAVN KF  
VADSØ FISKARLAG



INVESTMENTS / KNOWLEDGE / OWNERSHIP

Vadsø Harbour is owned by the municipality and manages all daily operations in the harbour of Vadsø. Vadsø's advantages as a harbour was the reason for the city to be established in the first place.

Vadsø is historically a fishing community, and this is still an important part of Vadsø's identity. There is still an active fishing harbor and a fish processing centre present, and the amount of private owned fishing boats has actually increased rather than decreased the last years.

It seems to be a certain eagerness amongst young people to practice this type of traditional small scale harvesting from the sea. The Norwegian Fishermen Association is the professional fishermen's union and business organization, and they have a local division.

The sea has an infinite presence in Vadsø and is an important, if not the most important, angle on local eco-system perception and knowledge.



## Urban strategy

### 3.2 COAT + LOCAL ACTORS

Investments / Knowledge / Ownership

An initial selection of  
LANDSCAPE INVESTMENTS /  
LOCAL ACTORS

VARANGER KRAFT



INVESTMENTS / KNOWLEDGE / OWNERSHIP

Varanger Kraft has a local office in Vadsø and a established infrastructure in Vadsø and Varanger. They are the local producer and supplier of water and wind energy, and at the same time a provider of local workplaces.

They have future visions for green energy supply and the knowledge and resources to bring them forward. Internally linked with this is an indisputable regional pride.

Another example of a local initiative is their participation in the city centre development of Vadsø through the planning and fascilitation for el-charging stations.

Their future agenda are global at the same time as local. Through a collaboration with Japan they have been working on the development of liquid hydrogen as a means to transport green energy. A part of this vision is vehicles running on H2 fuel. This could substitute for todays diesel driven ferry bringing people around the coastline of the Varanger peninsula.



## Urban strategy

### 3.2 COAT + LOCAL ACTORS

Investments / Knowledge / Ownership

An initial selection of  
LANDSCAPE INVESTMENTS /  
LOCAL ACTORS

**YTREBYHAGEN HAGELAG**  
**VADSØ HAGELAG**

*HAGEBYEN VADSØ*



INVESTMENTS / KNOWLEDGE / OWNERSHIP

Vadsø is historically known by the name of *Hagebyen*. This is because location and shelter provided by Vadsøysa creates a micro climate, making Vadsø the place in Varanger where you can grow species not possible else where in the region. The tradition bloomed with the extravagant gardens of the merchants and officials in the days of Vadsø being an important trading centre.

**Vadsø hagelag** established in Of historic importance, a tradition bearer and knowledge keeper of the practice of gardening in Vadsø. An extensive archive kept at the city hall shows the works and studies of a group of gardeners (at f.ex Skogsholmjordet) from Vadsø testing out different types of species while thoroughly documenting their results.

**Ytrebyhagen hagelag**. Existing gardening group in Vadsø. They represent the new generation of gardeners in Vadsø, continuing the tradition, at the same time as bringing forward the contemporary approach, eco-gardening and the eco-conscious gardener.



## Urban strategy

### 3.2 COAT + LOCAL ACTORS

Investments / Knowledge / Ownership

An initial selection of  
LANDSCAPE INVESTMENTS /  
LOCAL ACTORS

#### VARANGER KITE CLUB



INVESTMENTS / KNOWLEDGE / OWNERSHIP

Varanger Kite Club is a small kite club located in Vadsø, using the vast plains of the Varanger Peninsula as their playground. They work to promote kiting as a sport and Vadsø and Varanger as the main destination for this.

#### Annual Event: VARANGER ARCTIC KITE ENDURO

Once a year The Varanger Kite Club invites the world to join the worlds longest kite race across the Varanger Peninsula. The inspiration for Varanger Arctic Kite Enduro, came from the sled dog races. This existing annual event is a unique opportunity to turn the worlds eyes to Vadsø, promoting the *Arctic Climate-Change Knowledge Capital*

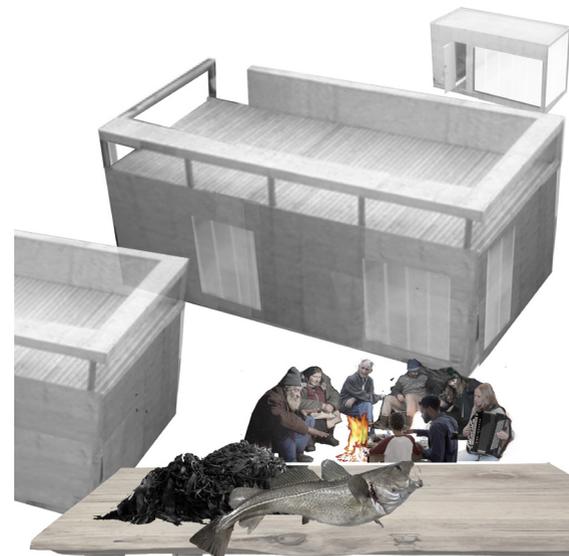
# Design Strategy

Location: **Vadsø**, Finnmark, Northern Norway  
iVAARNatur:urbanEcoObservatory

## VADSØ

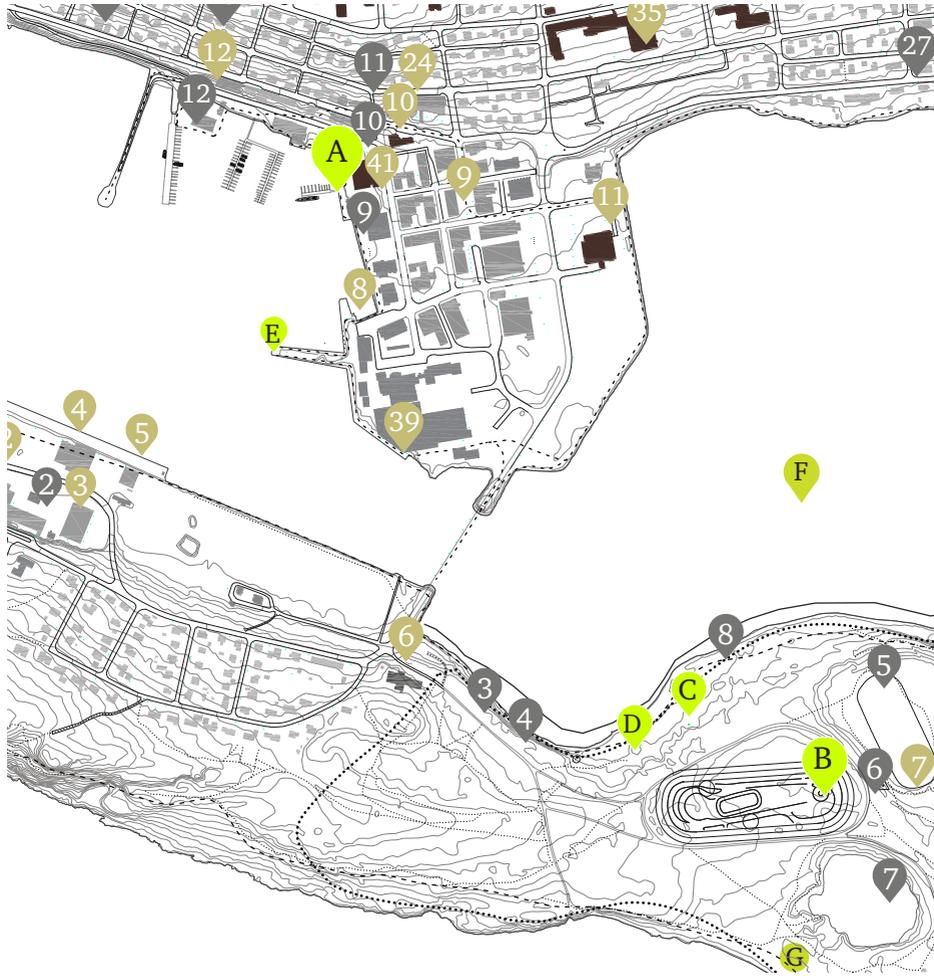
The Arctic Centre for  
Climate change knowledge

*VARANGERLAG*  
*-the local union*



# Design strategy

## 4.1 Location



INTERVENTION LOCATION

# Design strategy

## 4.1 Location



Varanger Torg facade

The design interventions include a main hub on the harbourfront in the city centre and smaller design interventions in the centre and on Vadsøya, the island. The limegreen dots indicates the locations of the design interventions.

The design proposals acts a feasibility study. It visualises examples of how the environmental knowledge strategy could manifest spatially and what this could do for the urban spaces in Vadsø. The town serves as an observatory and a laboratory. These design interventions and spaces encourage reflection on human-nature relations and eco-system management at the same time as being places and alibis for social encounters.

The design interventions are independent, but coordinated, in order to encourage a movement between. They emerge in connection with a distinct existing quality, a coastline path that brings you through the entire town from edge to edge, including the island. Not the usual sleek and imported harbour promenade, but an urban coastal path displaying the wide range of landscapes and historic layers that Vadsø has to offer. From decay to prosperity. From wild to domesticated. A feature of Vadsø is that the harbour, the industrial areas, and the museum sites, are not closed off. There is a stretch of the path that is obstructed on the western tip of the island. The old herring oil factory. There are plans for its redevelopment, but with heavily contaminated soil and large buildings in decay, this is a long-term project. I suggest to make a hole in the fence and secure a path through. The experience of walking between the industrial relics is spectacular in itself, and the view of the city centre is particularly magnificent from this site.

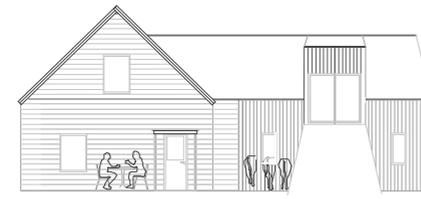
# Design strategy

## 4.2 LOCATION - LOCAL HUB

A HUB for information, initiative and knowledge exchange

### The new common Hub – ‘VARANGERLAG’

The *VarangerLag* hub: An important part of the strategy to create a platform for sharing and participation for all of the above & the centre of proposed and existing *satellite locations* spread out in the city centre and the surrounding Varanger Peninsula and Varangerfjord.

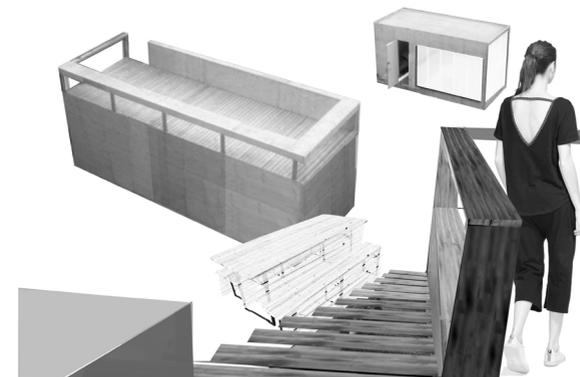


Varangerhus - Local typology

*Varangerhuset* was a combination house with housing and barn connected with an inner aisle. The house had all farm functions under the same roof. It could also contain stables, high boots, storage rooms and saunas.

One of many manifestations of a long tradition of an intimate relationship with nature and its resources.

### VARANGERLAG - a common hub



# Design strategy

## 4.2 LOCAL ACTORS at:

### A - VarangerLag Common Hub

The new common Hub –  
VARANGERLAG

The choice of location became very important. The choice fell on transforming parts of a small scale shopping mall in the main commercial street, Tollbugata. A concrete structure built as a part of the post war reconstruction of the city centre. I chose an existing building to stay coherent with the idea of operating with modest economical investments, and I chose this exact building because the location provides the most interesting duality reflecting the identity of the city. The harbour front façade and the official city facade facing the city hall square. The hub becomes the mediator between.



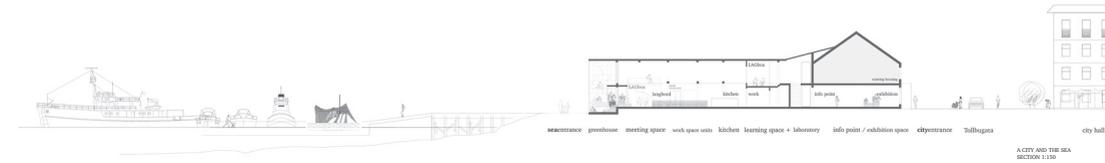
### PROGRAM:

At VARANGERLAG you can catch up on the latest biome border updates, stop by the laboratory and see for yourself. An update on the berrypickers or the reindeer herders seasonal analysis. Dig into the digital archives or check the noticeboard. Pick up instrument or gear for exploring the landscape from a different perspective than your own.

# Design strategy

## 4.2 LOCAL ACTORS at:

### A - VarangerLag Common Hub



#### A CITY AND THE SEA



1:2500  
possible result of ongoing research by local power company

#### The Blue Pavilion

The visible part of the building - the Entry in Varanger and Varangerfjord

Current activity:  
Varangerlag Museum 2018  
international youth camp  
Beach cleaning  
Boating of 1.000.000. Nord-Troms  
Fjordland  
/Finnmark Fjordland

#### Seafloor Green House

Privileged location  
- Hippogrene (Hippogrene group)  
- CO2-farm  
- Youth Club

Attached one existing remnant of existing building at Tollbugata 9-11  
Inherits any empty facade  
Inherits outdoor  
- a sheltered space in the city centre harbor zone

#### Urban Coastal Path

leads through the diversity of VAEISG

**HIGHLIGHT**  
Traditional agriculture  
Fishing  
Marine, teaching and sleeping  
Lounge  
Shopping Area  
Park landscape  
Marine museum  
Marine laboratory  
Marine museum  
Beach  
Science lounge  
Urban Wildlife  
Agricultural landscape  
Docks and Harbours, new and old  
The building on corner and  
A fishing community  
Sharp corner club  
On ground  
Shared courtyard  
Greenhouse  
Meds (fish cage) connection

#### MR Njerman

Varanger Museum  
old traditional fishing boat  
the story of a traditional culture

1:2500  
several spots along coastal path  
Typology / Instrument / Landscape



#### A CITY AND THE SEA

SECTION 1:150

#### VARANGERLAG hub

a common hub:  
Info-point / Meeting space / Workshop

HIGHLIGHT research  
- meeting point and lounge for all local actors

Climate change knowledge  
Bio-system awareness  
competing perspectives and knowledge on landscape  
nature conservation under one roof

All register providing  
complex and diverse  
local knowledge on climate  
change and environmental  
challenges  
(see program list for actors)

1:2500

# Design strategy

## 4.2 LOCAL ACTORS at:

### A - VarangerLag Common Hub

The mid section of the existing building has been cleared to make space for the VarangerLag hub. The program of the neighbouring sections could benefit add to the hub. Frivillighetssentralen (The voluntary centre) is moved out of the middle section and in to the neighbouring north-east section. This symbiosis could obviously benefit VarangerLag.

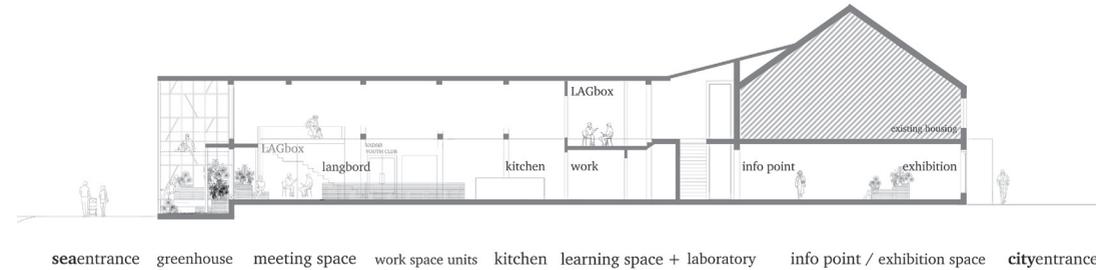
The exhibition space and the noticeboard is accessible and visible from Tollbugata. The satellite exhibition space of the Varanger museum and the power company Varanger Kraft is a part of this same space. The laboratory of COAT placed in the mid section, close to the rough entrance for direct access when returning from field work. A learning space in connection with the laboratory and the common kitchen core. More closed off work boxes and two LAG available available for booking or drop-in for a club, organization or others in need of a meeting or working place.

There is a second level added. One attached to the west façade, providing access to a harborfront viewpoint. The second one in the center of the building, linked to existing vertical communication.

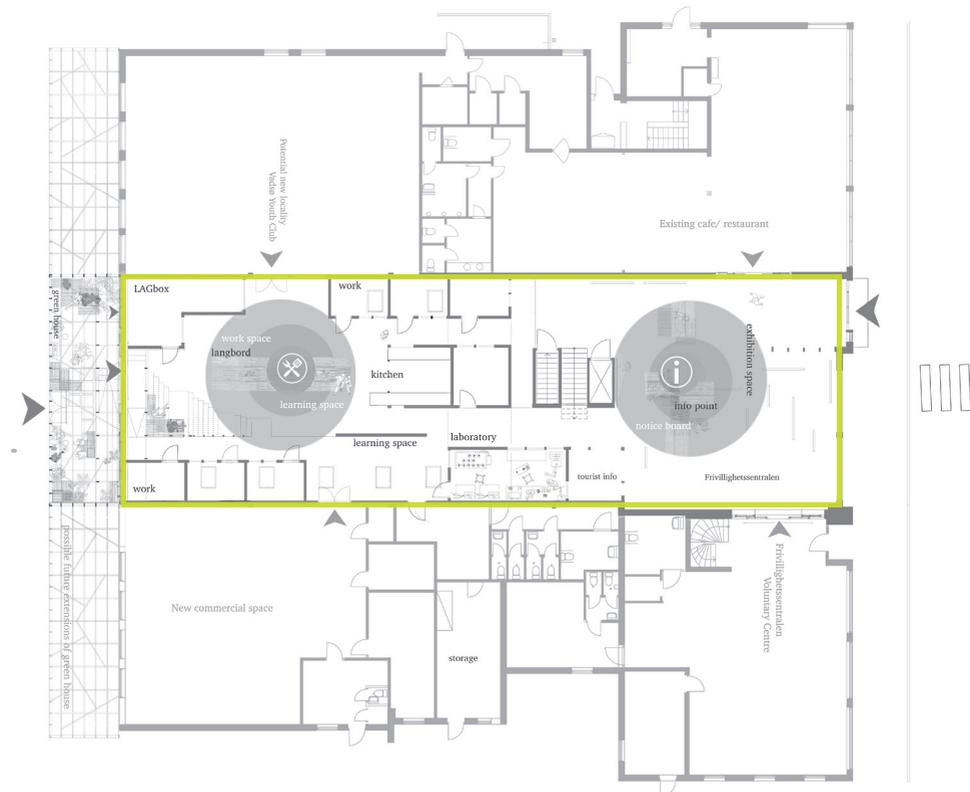
# Design strategy

## 4.2 LOCAL ACTORS at:

### A - VarangerLag Community Hub



1:1000



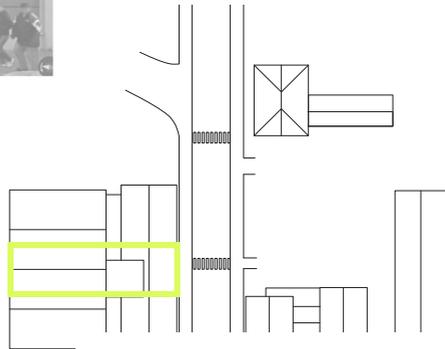
# Design strategy

## 4.2 LOCATION:

### A - VarangerLag Community Hub

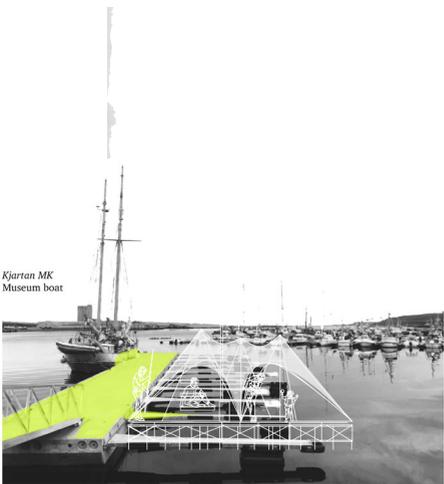


CITY FACADE



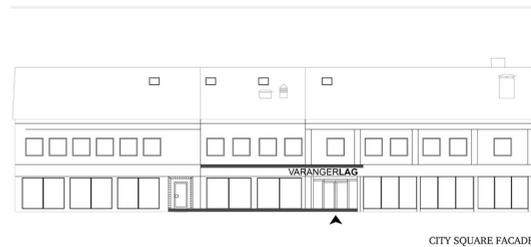
### Vadsø Torg

Existing shopping mall & location of Frivillighetssentralen. Middle section transformed into the common hub of VARANGERLAG



Kjaran MK  
Museum boat

Blue Pavillon docked outside VarangerLAG



CITY SQUARE FACADE



SEA FRONT FACADE  
ADDED STRUCTURE

SEA FACADE

# Design strategy

## 4.2 LOCATION:

### A - VarangerLag Community Hub



### VARANGERLAG city facade

Vadsø City hall & Vadsø main square  
Built in 1950 as a part of the post ww2 rebuild of city centre (Midtbyen) which was heavily damaged



Sea front facade

# Design strategy

4.3 A - VarangerLag 1:150

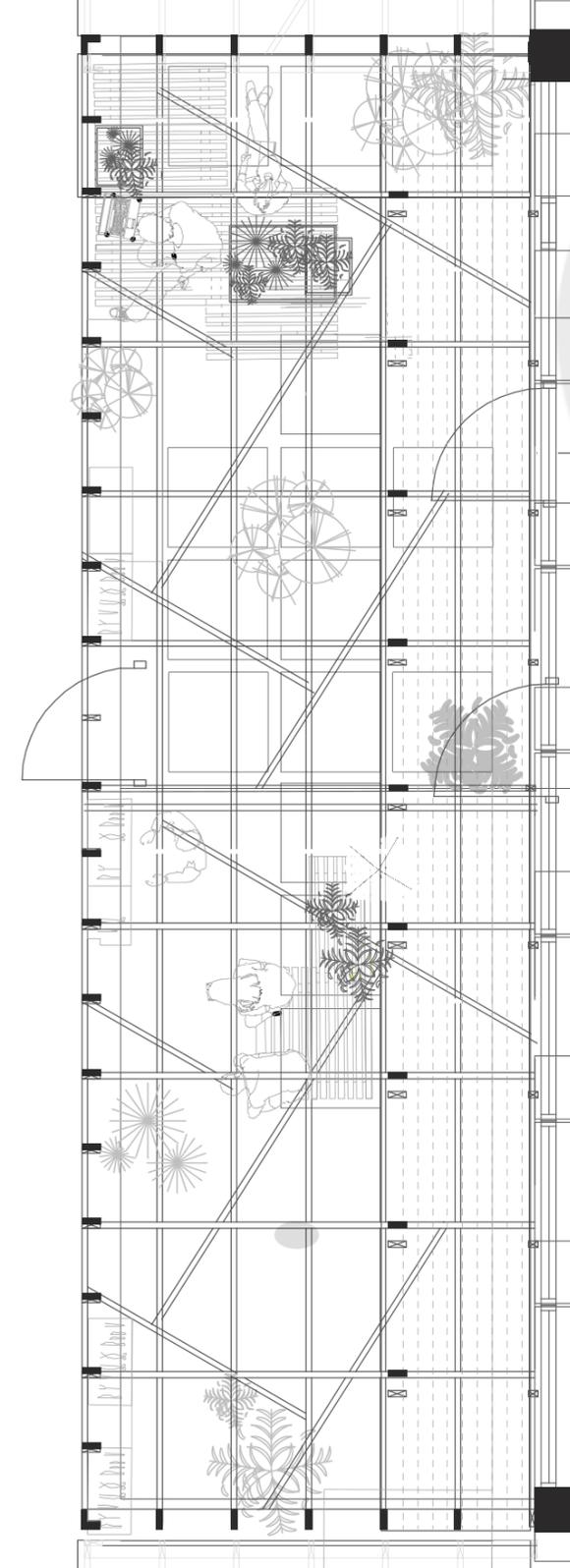
Community info hub

**Greenhouse garden**

COAT + Vadsø Hagelag

The west facade extended in the form of a seafront greenhouse, the coastal path passing just outside. A social space at the harbor front, but also an arena for Vadsø Hagelag, COAT and others to research plant species future due to climate change.

A branch of COATs local educational strategy and Hagelagens intergenerational learning as well as a sheltered social space at an otherwise windy harbour front. The plants seen in the illustrations are based on information from an archive established by Vadsø gardeners and COATs science plan.



# Design strategy

## 4.3 LOCAL ACTORS

### A - VarangerLag Community Hub - Greenhouse garden



# Design strategy

## 4.4 B - Vadsø - The Garden City

### VADSØYA ECO-SCIENCE PARK



COAT



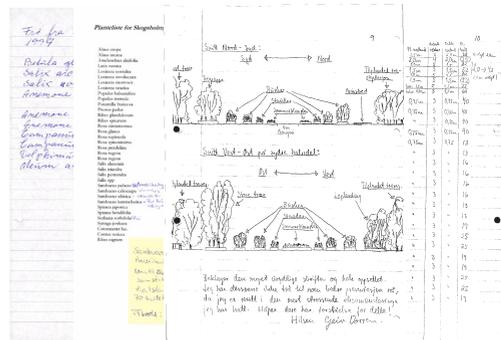
YTREBYHAGEN Hagelag



VADSØ Hagelag



Skogsholmjordet



The Archives  
Source: Vadsø municipality archives

# Design strategy

## 4.4 B - VARANGELLAG GREENHOUSE GARDEN

Sheltered social space and winter garden at Vadsø city centre harborfront

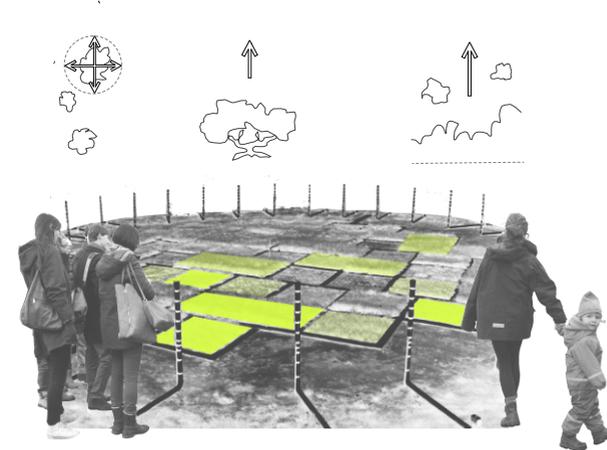
+

### VADSØYA ECO-SCIENCE PARK

adding a layer to existing Vadsøya Kulturpark (nature reserve and cultural heritage site)



VARANGERLAG GREEN HOUSE GARDEN

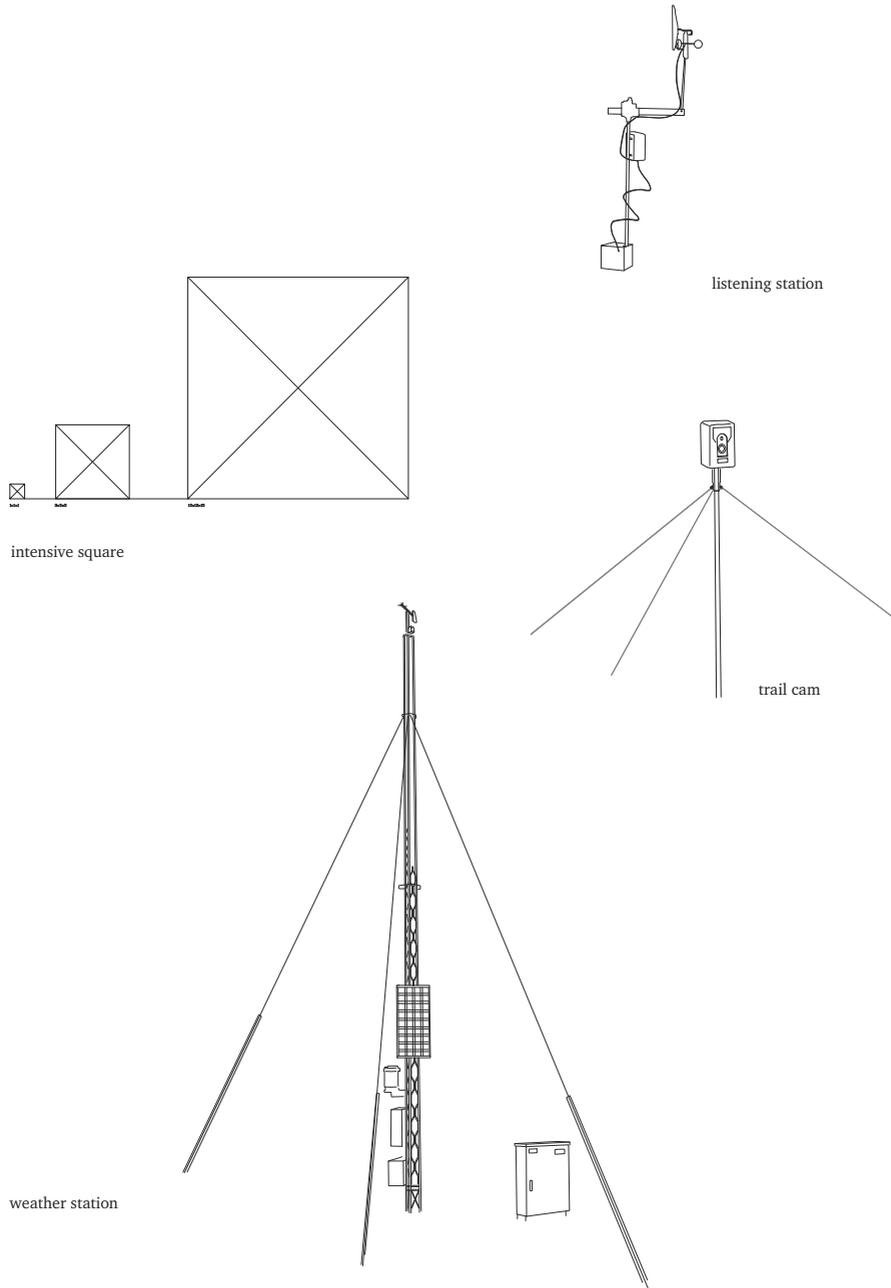


VADSØYA ECO-SCIENCE PARK



# Design strategy

## 4.4 Eco-science / Examples of COAT INSTRUMENTS



# Design strategy

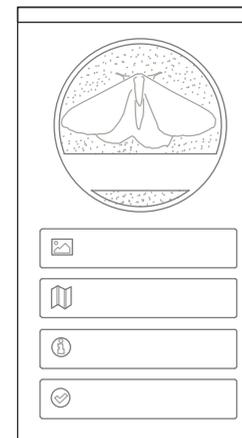
## 4.4 Preserve / Use - Eco-Science

### Varanger Peninsula National Park

In order to design new modes for communicating the research, it is important for me to make a statement concerning the conflicting agendas of preserving and researching. The Varanger Peninsula National Park has strict regulations protecting the tundra landscape from potential disturbances. The aesthetics of the instruments and the associated human activity is not consistent with the idea of a pristine and picturesque wilderness, making the fieldwork of the researchers difficult. The very thing the regulations are there to preserve is slowly diminishing as the biome border continues to move north due to climate change.

*Given the right instruments, humans gain access to and, more importantly, begin to interact with entire systems of objects and landscapes that were present all along but had otherwise been physically undetectable, camouflaged or hidden(...)*

Geoff Manaugh



**Målerjakt**  
A mobile phone application for registration of observation developed by COAT as a part of the of the **citizen science** strategy

## Design strategy

### 4.4 Preserve / Use - Eco-Science Varanger Peninsula National Park



## Design strategy

### 4.4 Preserve / Use - Eco-Science

**B** Vadsøya Kulturpark: a nature reserve & cultural heritage site

This project includes a proposal to reframe the aesthetics of the instruments and embrace human activity in nature. Such a reframing could also lead to opening the National Park for research purposes and turn it, and the town, into a National Science Park.

To do this within Vadsø, a Science garden is established in the Nature Reserve on Vadsøya's east coast (Vadsøya Kulturpark) It will be another branch of COAT's local educational strategy and an intergenerational learning garden of the local garden group in Vadsø.

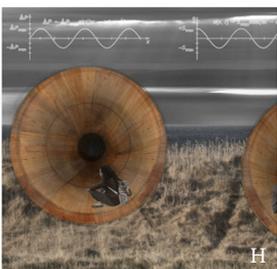
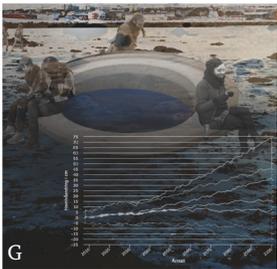
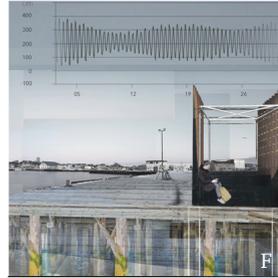
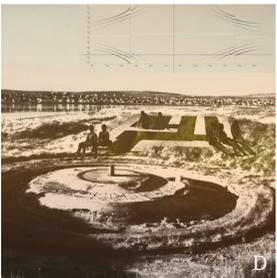
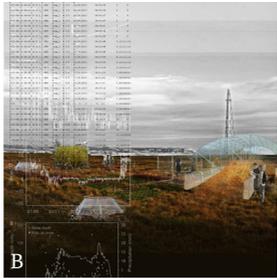
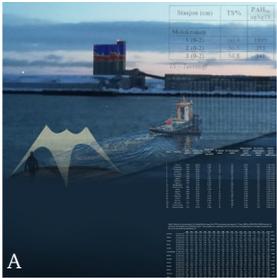
This high-tech garden provides pieces of territory that can be manipulated through installed instruments: Summer three times a year. Never below 0 degree. Test it out.

The local gardeners have since Vadsø's origin as a Garden City worked with lighter manipulation: Careful site choices, experimentation with plant species, and installation of snow fences, wind shelters and insulation.

The project will not compromise the park as a space for leisure and recreation, but experiment with new kinds of garden elements and aesthetics as a way to reconceptualise the population's relationship to their changing territory.

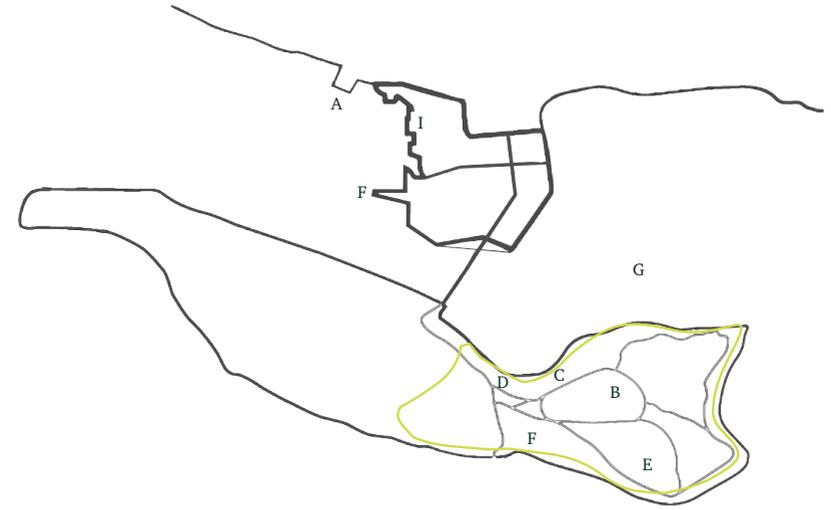
# Design strategy

## 4.5 Preserve / Use - Examples of VARANGERLAG instruments Varanger Peninsula National Park



# Design strategy

## 4.5 Preserve / Use B Vadsøya Kulturpark: a nature reserve / cultural heritage site + Vadsøya Science Garden + Vadsø coastal path



- Nature Reserve border
- Coastal path pattern

# Design strategy

## 4.5 Preserve / Use

### VADSØ COASTAL PATH DESTINATIONS

The coastal path



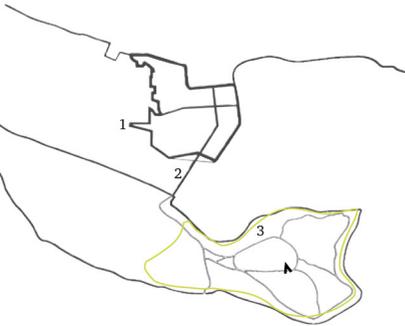
City Centre harbor



Vadsøys bridge



Vadsøys Park

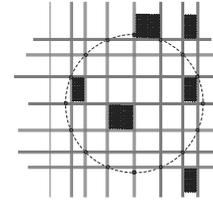


- Vadsøys Kulturpark: a nature reserve / cultural heritage site
- Vadsø coastal path
- ▲ One mesocosm plot

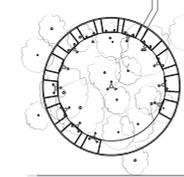
# Design strategy

## 4.5 Preserve / use

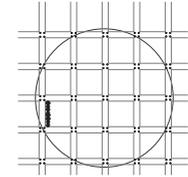
### B Vadsøysa Kulturpark: a nature reserve / cultural heritage site + Vadsøysa Science Garden



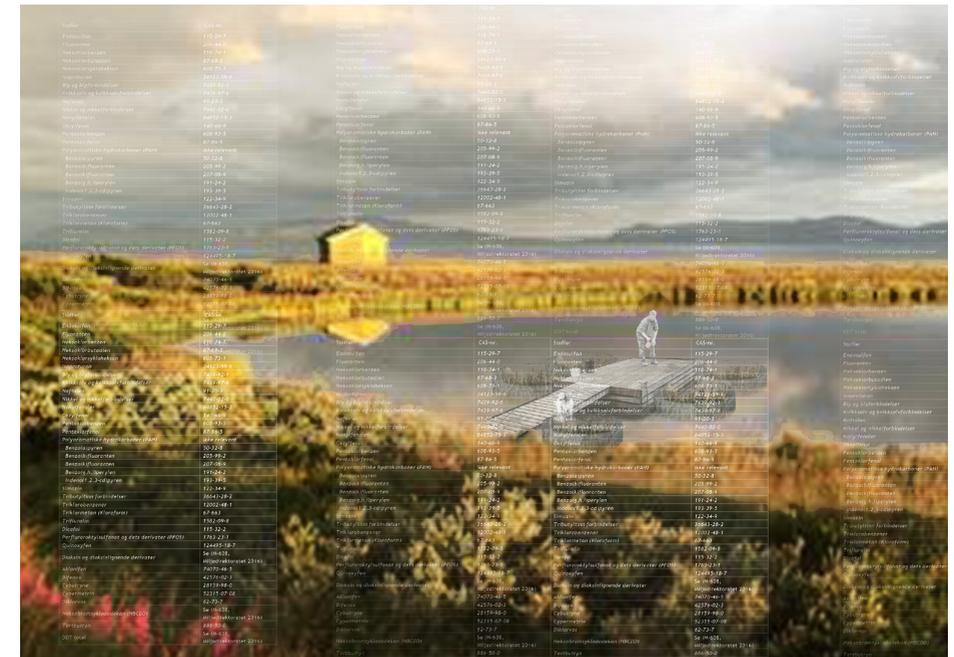
temperature  
freeze & thaw speed up



co2 emission



the mire in climate change



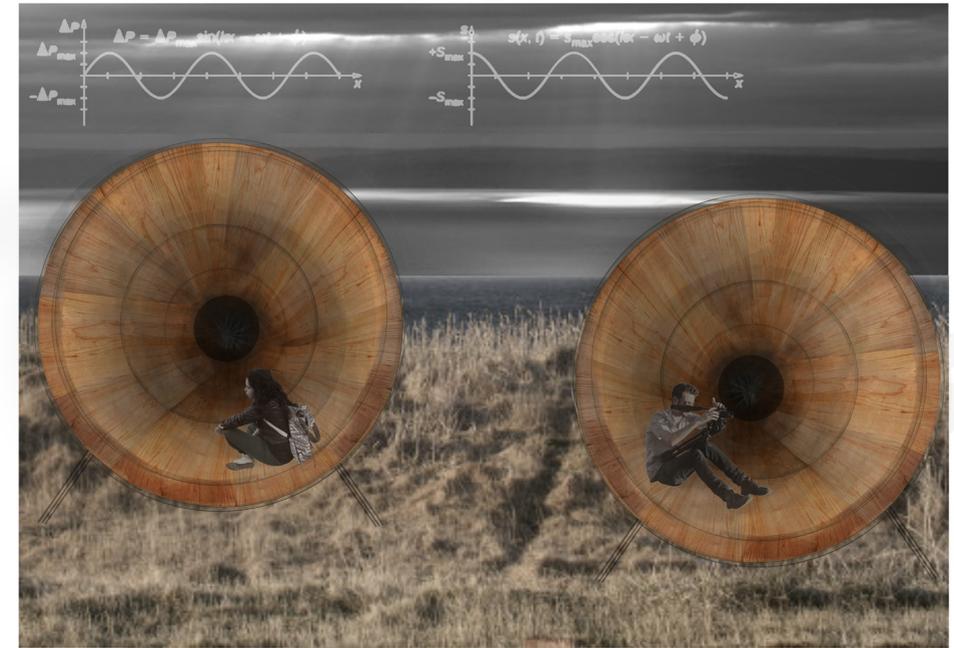
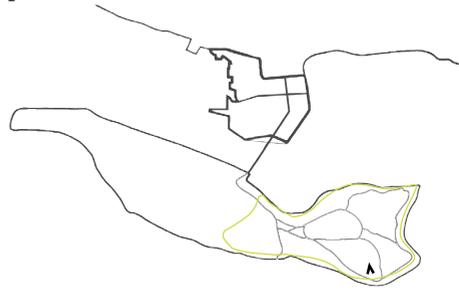
Vadsøysa Science Garden  
garden / a fresh water mesocosm p



# Design strategy

## 4.5 Eco-system process - Ocean waves

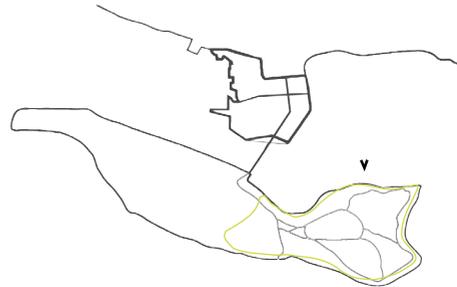
**G Ocean Megaphone** Coastal path destination



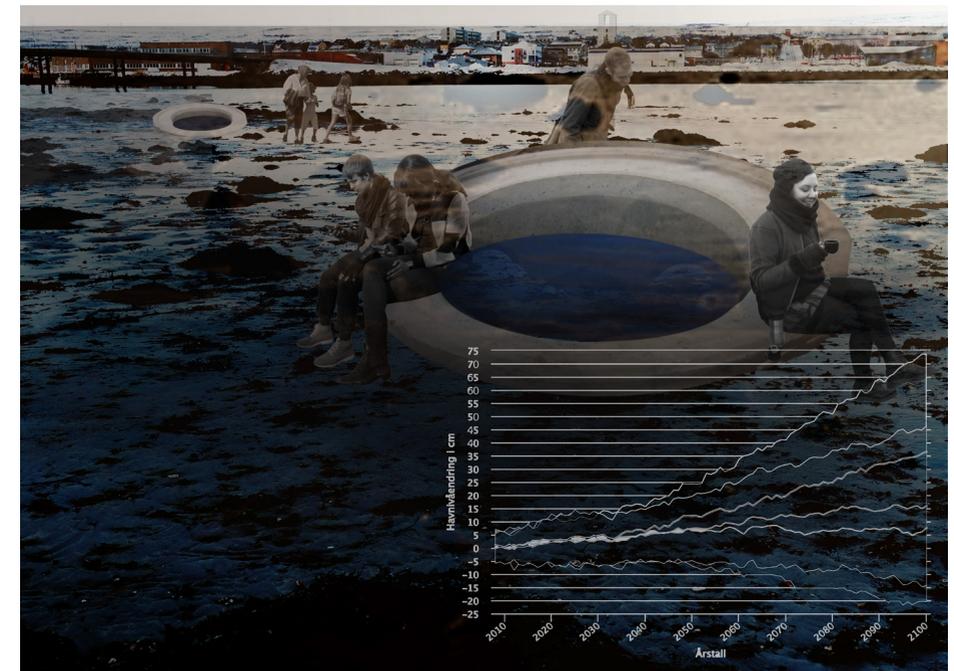
**G OCEAN SPEAKERS**

## Eco-system process - Tidal Cyclus

**G Mudflat Bench** Coastal path destination



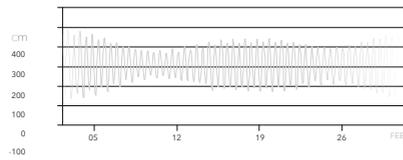
**F MUD FLAT DESTINATION**



# Design strategy

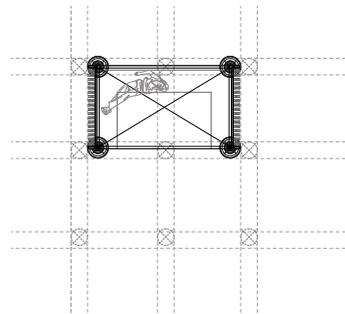
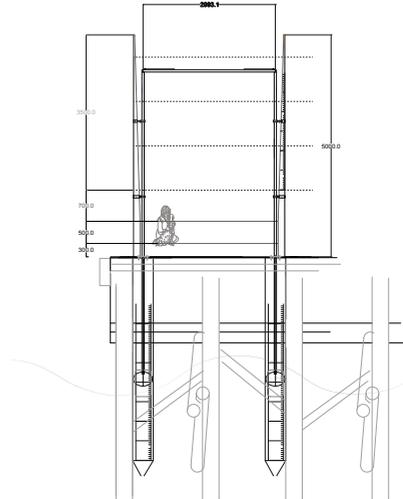
## 4.5 Eco-system process - Tidal cyclus

**Tidal shelter.** An example of an instrument that should appear several places along the harbour front, giving a precise visual measurement of the sea level at all times at the same time as being a destination along the coastal path.



*"Riktignok kunne visstnok sundet vades alt mot slutten av 1800-tallet, men bare i riktig storfjære og sjøl da ikke uten vanskeligheter (...) Landhevingen siden dengang tilsier at Sundet å ha vært adskillig dypere. (s.138, Vadsøs historie)*

januar	374 cm	214 cm	39 cm
februar	378 cm	196 cm	24 cm
mars	368 cm	199 cm	18 cm
april	334 cm	184 cm	-7 cm
mai	349 cm	165 cm	11 cm
juni	352 cm	167 cm	26 cm
juli	337 cm	188 cm	9 cm
august	348 cm	191 cm	14 cm
september	331 cm	180 cm	2 cm
oktober	354 cm	200 cm	25 cm
november	383 cm	205 cm	38 cm
desember	375 cm	207 cm	33 cm

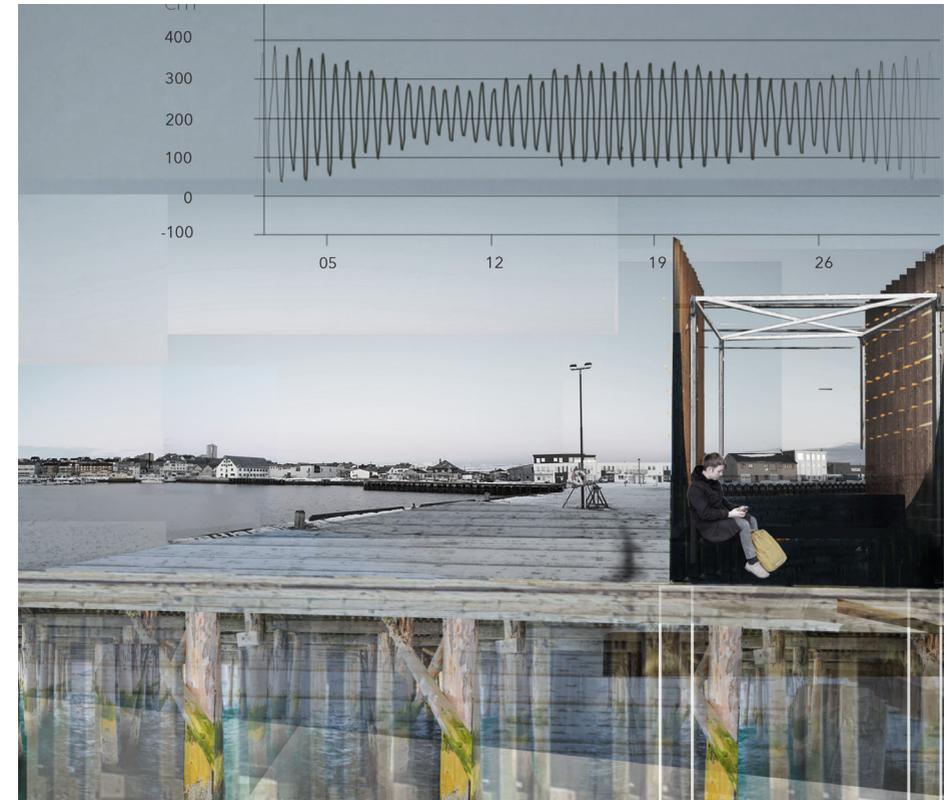


# Design strategy

## 4.2 Eco-system process - Tidal cyclus

Registration &

**E Tidal house** Coastal path destination



# Design strategy

## 4.5 LOCAL ACTORS - Varanger Museum Knowledge / Ownership

Bunker Observatories. Activate maybe the darkest part of Vadsø's rich history by cutting open and in this way reframing and taking ownership to make new use of 2 bunkers built on Vadsøya by the nazis regime during WW2.



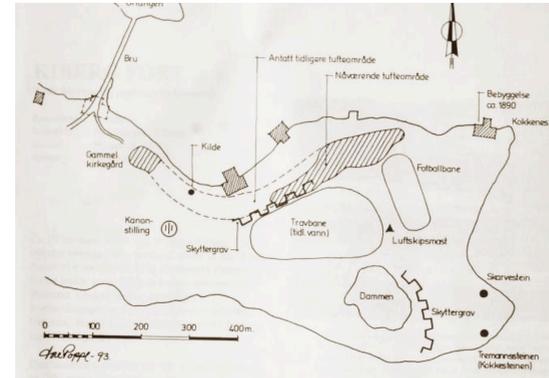
VARANGER MUSEUM - HISTORY



Landscape of VARANGER / VADSØ LANDSCAPE  
Of great National/global archaeological importance

# Design strategy

## 4.3 LOCAL ACTOR - Varanger Museum C / D Bunker Observatories - Reframing history



Drawing from *Fotefar mot Nord*



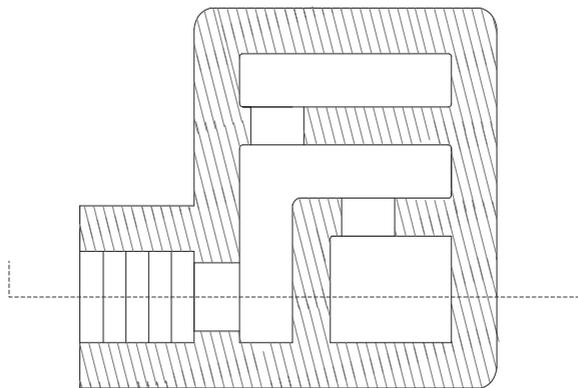
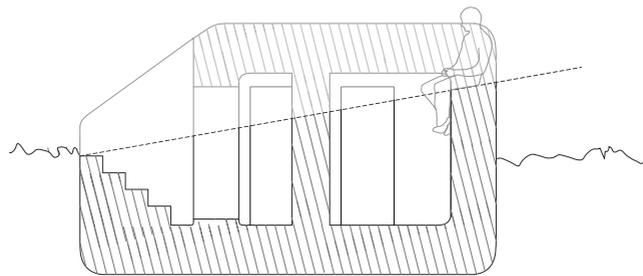
Drawing from *Finnmark under hakekorset*

# Design strategy

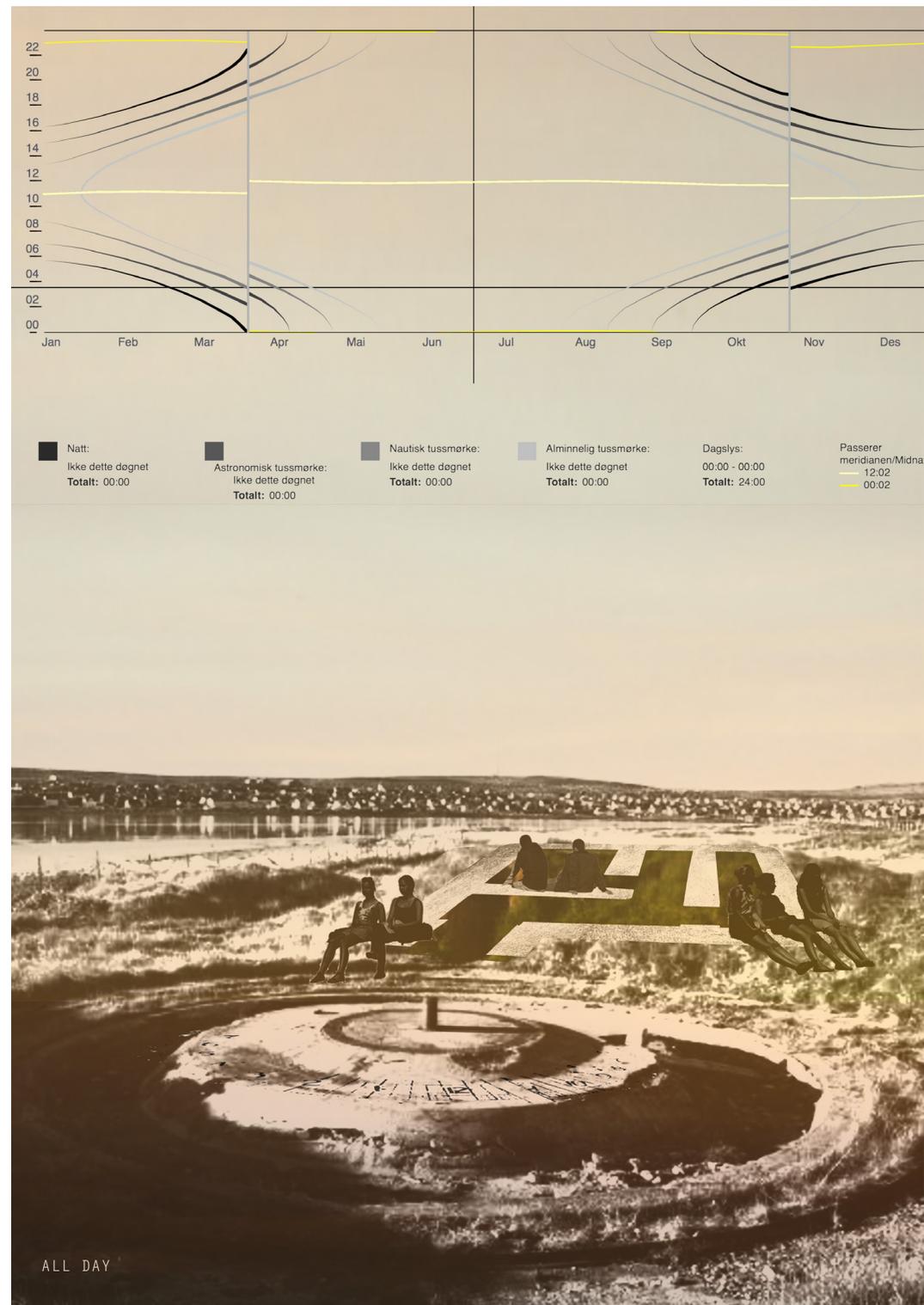
## 4.5 LOCAL ACTOR - Varanger Museum

### C Bunker Observatories - Reframing history

**Observe all Day.** For when the day goes on forever. The angled cut by a diamond wire reveals the inside of the bunker while exposing a south westbound cut surface, and offers a concrete slate tempered to lie on while waiting for the midnight sun to hit position.



BUNKER DAY 1:50

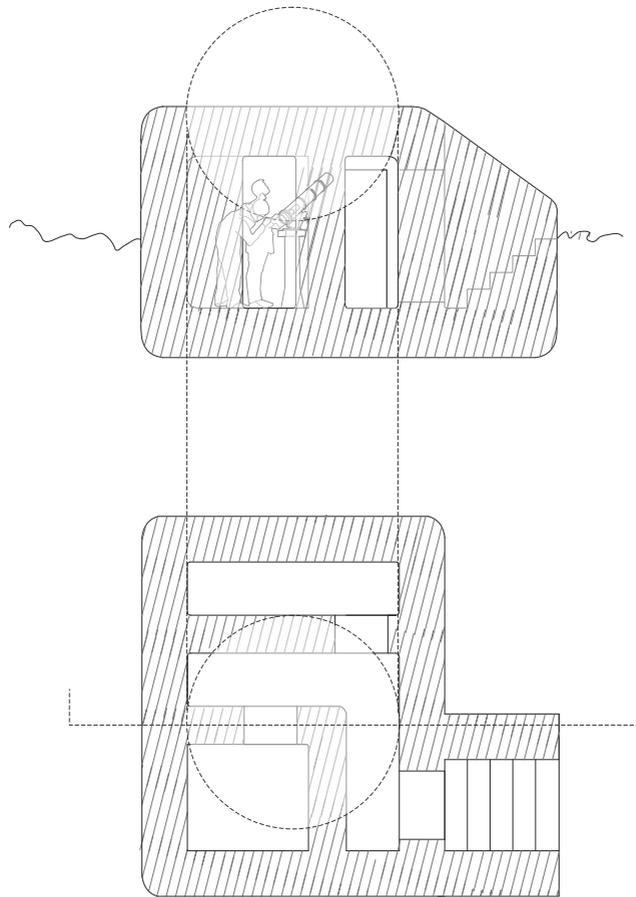


# Design strategy

## 4.5 LOCAL ACTOR - Varanger Museum

### D Bunker Observatories - Reframing history

**Observe all Night.** For when the night consumes all. The spheric hole created by a rotary drill with a diameter of 2.4m leaves a spheric negative suitable for a gathering, observing what is above: borrow a telescope at the VarangerLag hub and check it out.



BUNKER NIGHT 1:50

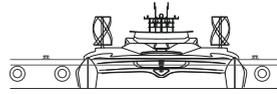


ALL NIGHT

# Design strategy

## 4.5 LOCAL ACTORS: Varanger Kraft

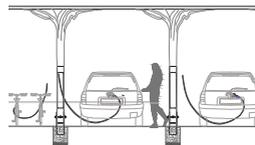
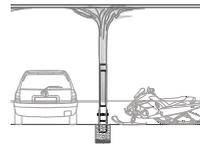
Hydrogen fueled speed ferry & EL- charging stations  
as a part of city centre strategy



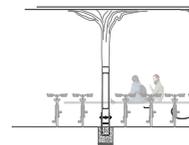
The hydrogen fueled speed ferry at the city centre dock



Possible public space situations in Vadsø city centre making use of the future visions of Varanger Kraft



El-charging station as a network connecting the city. Different combinations of el-charging for car, snowmobile and bicycle. Heated benches makes it a place to linger even when the arctic cold arrives.



Season	Month	Measured Values of Particulate Air Pollution (PM 2.5) In Micrograms cubic metre					
		2013 [1]		2014 [1]		2016 [2]	
		Site Not Specified		Site Not Specified		Site at Chanačupan	
Winter and Early Summer	Jan	238	100	200	120	184	184
	Feb	120	120	150	150	139	
	Mar	115	115	100	105	71	
Summer	Apr	100	70	100	100	62	
	May	130	80	110	80	74	
	Jun	100	100	100	80	55	
Monsoon (Rainy) Season in India	Jul	60	70	90	85	33	
	Aug	60	70	90	60	33	
	Sep	70	70	70	70	50	
Winter	Oct	100	100	110	130	100	
	Nov	239	110	240	100	236	
	Dec	248	90	238	100	249	



Figure 1.1.3. Trends in annual mean temperature for the period 1960-2011, based on the NASA GISS analysis (http://data.giss.nasa.gov/gissnlp/). The inset shows linear trends over the 52-year analysis period averaged by latitude showing the warming amplification in the polar latitudes.

Kjøretøy	Drivstoffpris	Energiinnhold	Virkningsgrad	Kostnad [kr/kWh]
El-bil	95	0,80 [kr/kWh]	80 %	1,00
Bensinbil	13,-	[kr/l]	20 %	7,15
Dieselbil	13,-	[kr/l]	20 %	4,30

Tabell 6.1. Detaljer i utslipp, CO2 ekvivalenter innen hver sektor, i Vadsø kommune.

Stasjonær forbrenning	Utslipp i tonn CO2-ekvivalenter			
	1991	1995	2000	2007
Industri	68002,9	36322,8	17633,6	1719321,8
Annen næring	17703,4	19158,5	13546,2	13474,7
Husholdninger	37573,0	26741,4	21756,9	14757,0
Annen stasjonær forbrenning	987,0	0,5	0,6	0,0
Prosessutslipp	150538,6	184223,2	122286,2	151954,1
Industri	528,1	539,2	828,9	2803,5
Deponi	27688,8	23009,6	30778,3	30468,7
Landbruk	118070,2	102102,5	86424,2	114691,9
Andre prosessutslipp	4271,7	4311,9	4257,8	3990,7
Mobile kilder	216378,5	246725,9	238031,7	281298,6
Veitrafikk	151467,0	169260,3	155426,5	179302,5
Personbiler	119981,2	118982,1	112677,0	126856,1
Lastebiler og busser	31375,8	50278,1	42749,5	52446,4
Skip og fiske	14376,6	14856,0	16739,3	17423,4
Andre mobile kilder	50544,9	62648,9	65865,9	94570,6
Totale utslipp	492082,7	467511,6	413254,3	2184804,1

Bygning	Bruksareal [m <sup>2</sup> ]	Temperatur-korrigert forbruk [kWh]	Areal-spesifikt [kWh/m <sup>2</sup> /år]	Eneigbehov iht Enova [kWh/m <sup>2</sup> /år]	Sparepotensial [kWh/år]
<b>SKOLER:</b>					
Sentrum skole	10 190	1 516 202	149	225	
Melkevarden skole	2 076	667 200	321	225	200 049
V. Jakobselv skole	1 235	233 887	189	225	
Fossen skole	2 230	638 593	286	225	136 787
Nya Ungdomsskole	4 150	629 634	152	225	
Industribygget	4 000	773 208	193	225	
<b>BARNEHAGER:</b>					
Gl.stua barnehage	508	133 587	263	260	1 393
V. Jakobselv barnehage	295	114 851	389	260	38 085
Stubben b.hage	460	125 572	273	260	5 869
Maurtua b.hage	456	146 197	321	260	27 534
Ruja b.hage	295	90 890	308	260	14 124
Lomakka b.hage	519	157 023	303	260	21 966
Tomlebo b.hage+HVPU	420	127 838	304	260	18 544
<b>KULTUR/IDRETT:</b>					
Miljøbygget	2 600	1 001 905	385	594	
Vadsø samf.hus/kino	1 500	587 980	392	400	
V. Jakobselv samf.hus	1 515	678 740	448	282	252 123
Vadsøhallen	2 600	336 328	129	256	
Vårbrudd - 1.etg.	400	111 725	279	282	
Golnes grendehus	465	48 299	104	282	
Varangerhallen	3 900	280 098	72	256	

# Design strategy

## 4.6 LOCAL ACTORS: Local fishing industry

### B - The Blue Pavilion - Mobile extension of VarangerLag

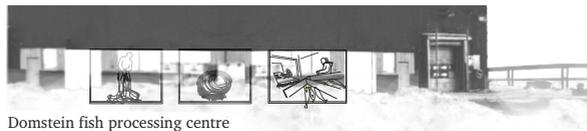
#### LOCAL MARINE ECO-SYSTEM KNOWLEDGE



Preparing the nets

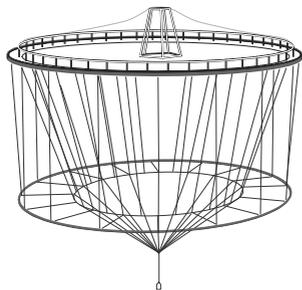
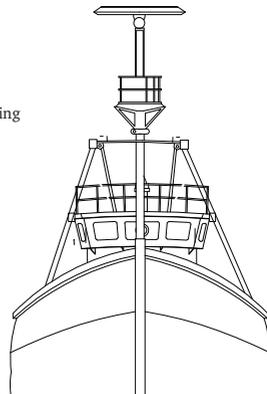
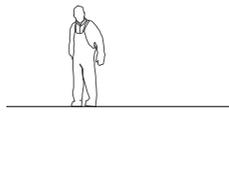


Sorting the catch



Domstein fish processing centre

Local fishing boat harbor  
&  
Fish processing centre  
Traditional small scale harvesting



A merde - Paddocks used in fish farming at sea  
-in the Varanger fjord. Modern large scale harvesting

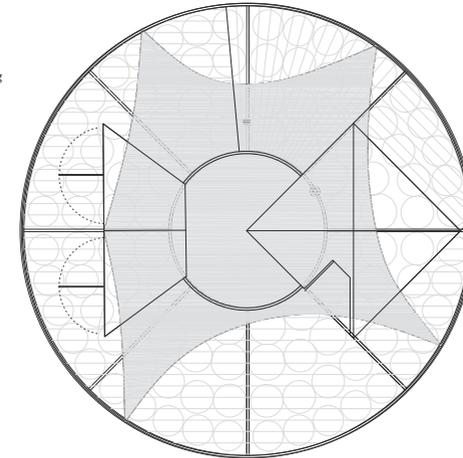
# Design strategy

## 4.6 LOCAL ACTORS: Local fishing industry

### B - The Blue Pavilion - Mobile extension of VarangerLag

Platform:

Plastic Barrels  
Steel ring embracing  
Steel rods stabilize



Water visual in centre  
Sheltered underneath

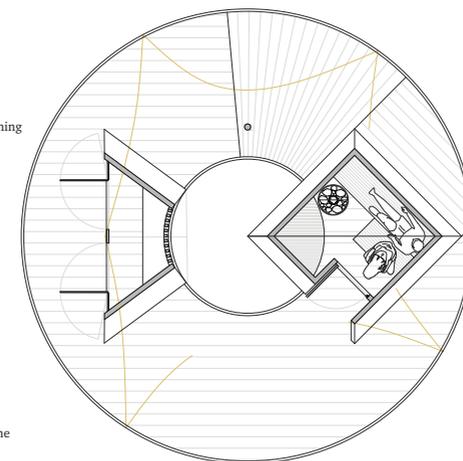
Top elevation 1:50

Lifted wooden deck  
for seating

Wooden deck

Sauna after beach cleaning

Tool shed  
Beach cleaning



Canvas for shelter  
Can be removed  
For sunny days/ extreme  
wind

Plan 1:50

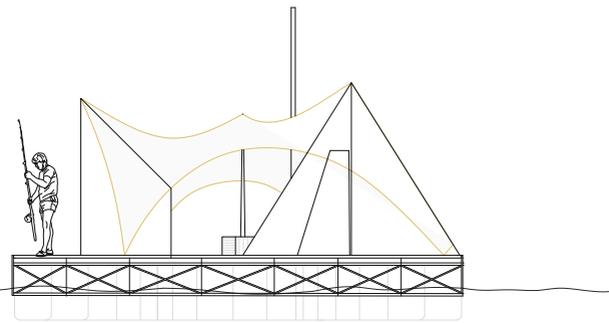
# Design strategy

## 4.6 LOCAL ACTORS: Local fishing industry

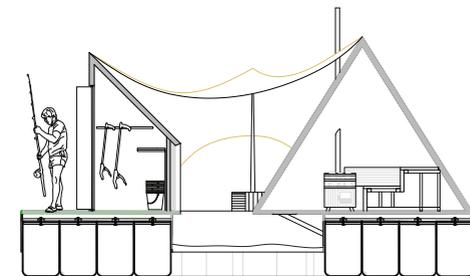
### B - The Blue Pavilion - Mobile extension of VarangerLag

The Blue pavilion is an extension of Varangerlag, mobile on sea. Docked at the city centre harbour front outside of the hub when not towed away for use at events other places in Vadsø or the Varangerfjord. A toolkit for beach-cleaning and an ice-bading/sauna platform for leisure after hours of work. A pavilion and an instrument giving access to the sea. It has a sensor installed, providing real time updates on water quality of the harbour. Yearly average will once a year be spray painted on to the silo towers.

BLUE PAVILION



Elevation 1:50



Section 1:50

control upper 95% CL	87	16
ANSCO 0.1	130=25	62=6
ANSCO 0.3	230=10	125=3
ANSCO 1.0	507=52	322=41
CBBO 0.1	270=20	149=13
CBBO 0.3	620=31	368=19
CBBO 1.0	1467=120	797=48

18 March exposure		
clean	62=5	11=3
clean upper 95% CL	82	23
CBBO 0.1	620=105	334=43
CBBO 0.3	1100=0	496=7
CBBO 1.0	1767=67	624=31

Stasjon (cm)	TS%	PAH <sub>16</sub> µg/kgTS
<b>Molokroken</b>		
1 (0-2)	60,4	1899
2 (0-2)	56,5	393
3 (0-2)	54,8	341

**TS-Tarrestoff**

Traditional information

Rank	Country	Econ. classif.	Coastal pop. (million)	Water gen. per cap. (kg/yr)	% plastic	% mismanaged waste	Mismanaged plastic waste (MMT/year)	% of total plastic waste	Plastic marine debris (MMT/year)
1	China	LM1	202.9	110	11	76	8.82	277	132-153
2	Indonesia	LM1	187.2	0.52	11	83	3.22	101	048-129
3	Philippines	LM1	81.4	0.15	15	83	1.88	5.8	028-076
4	Vietnam	LM1	55.8	0.79	13	88	1.83	5.8	038-073
5	Sri Lanka	LM1	18.9	5.1	7	64	1.52	5.0	024-064
6	Thailand	LM1	28.0	1.2	12	75	1.03	3.2	015-041
7	Japan	LM1	22.3	1.23	13	69	0.93	3.0	015-039
8	Malaysia	LM1	22.9	1.52	13	57	0.94	2.9	014-037
9	Taiwan	LM1	22.2	0.79	13	69	0.83	2.7	014-035
10	Bangladesh	LI	79.9	0.43	8	89	0.79	2.5	012-031
11	South Africa	LM1	12.9	2.3	12	56	0.63	2.0	009-025
12	India	LM1	187.5	0.34	3	87	0.62	1.9	009-024
13	Algeria	LM1	18.6	1.2	12	60	0.52	1.6	008-021
14	Turkey	LM1	34.0	1.77	12	18	0.49	1.5	007-019
15	Pakistan	LM1	39.0	0.79	12	88	0.48	1.5	007-019
16	Brazil	LM1	36.7	1.03	16	11	0.47	1.5	007-019
17	Burma	LI	19.0	0.44	17	89	0.46	1.4	007-018
18*	Mexico	LM1	12.3	1.46	5	68	0.36	1.0	005-012
19	North Korea	LI	17.3	0.6	9	90	0.32	1.0	005-012
20	United States	HIC	182.9	2.58	13	2	0.28	0.9	004-011

Table: Volumes of consumption (t) of polyethylene particles (PE) in personal care products<sup>1</sup> from 2000 to 2018 (2014-2018 forecast) in countries of the Baltic Sea catchment area<sup>2</sup>. Consumption per capita (g), and the total release of polyethylene microplastic particles by the use of personal care products (t).

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Denmark	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Finland	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Poland	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Sweden	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Latvia	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Estonia	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Lithuania	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Belarus	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Ukraine	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Poland	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Germany	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
France	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Italy	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Spain	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UK	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
USA	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
China	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
India	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Japan	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
South Korea	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
USA	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
China	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
India	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Japan	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
South Korea	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
USA	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
China	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
India	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Japan	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
South Korea	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
USA	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
China	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
India	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Japan	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
South Korea	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
USA	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
China	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
India	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Japan	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
South Korea	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
USA	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
China	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
India	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Japan	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
South Korea	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
USA	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
China	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
India	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Japan	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
South Korea	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
USA	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
China	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
India	100	100	100																	

# Design strategy

## 4.5 Preserve / Use

### VADSØ COASTAL PATH DESTINATIONS



Vadsøya fyr (lighthouse)

# Design strategy

## 4.5 Preserve / Use

### VADSØ COASTAL PATH DESTINATIONS

The designs reflect some of the the most characteristic landscape based **eco-system processes** of Vadsø and the Varanger peninsula. The interventions amplify or re-interpret them, at the same time as affording places to rest. The process or character of the spaces enables certain social events: Seek shelter and listen. Observe the night lasting all day long. Enjoy the day lasting all night long. Go mudflat exploring. Find out where the Blue pavilion is. These design interventions form an urban strategy of sensing, knowledge building, encounters and urban development.

The interventions and instruments cross-breed different forms of landscape practices and appreciations. They reframe or highlight historic landscapes and access deep time in the present by reframing, demonstrating or measuring. As such, they address known challenges of sustainable thinking, particularly something as abstract as large-scale territorial transformation.

## Event strategy

### 4.2 LOCAL ACTORS + Possible Events

Upcoming events on the noticeboard:

**UPCOMING EVENTS !**

The events are fictional proposes or fictional proposes adding to existing events. Proposed contributors and sponsors the same.

# Event strategy

## 4.1 LOCAL ACTORS: Resources Upcoming Events

### EXISTING

#### International Environmental Youth Camp

+ **Build the Blue Pavilion** - a Mobile extension of **VarangerLag**



### INTERNASJONAL MILJØCAMP

#Youexplore v/The Dale Oen Foundation har siden 2013 engasjert 40.000 ungdommer i Norge i aktiviteter i friluft, med fokus på forurensning i norske havområder og skjærgård. 9. februar arrangerte vi Europas første og største forskningskongress for ungdom, med 6000 unge deltakere i Grieghallen.

Gjennom støtte fra Barentssekretariatet og Inter Arctic kunne vi også invitere 50 russiske og nordnorske ungdommer til Grieghallen og felles aktivitetsdager ved senteret vårt. De fikk forsøke seg på forskning på plast i skjærgården utenfor Bergen, i tillegg til at vi ryddet et avgrenset område for plastikk.

Målet for #Youexplore er å bygge opp en "hær" på flere millioner ungdommer verden over med kunnskaper – praktiske såvel som teoretiske – for å oppfylle visjonen om rene verdenshav innen 2050.

Vi har nettverket, kompetansen, ambisjonene og gjennomføringsevnen som kreves for å forberede neste generasjoner på bekjempelse av sjøforurensningen. Vi har forskere, vi har kontakt med leverandørene av teknologi globalt, og vi vet hvordan vi skal arbeide konstruktivt med ulike myndigheter globalt for å sikre handling.



### OM #YOU EXPLORE INITIATIVET

Vi er i planleggingsfasen med å arrangere en internasjonal miljøcamp for ungdom på Ekkerøy i Vadso kommune, Øst-Finmark i tidsrommet onsdag 5 til søndag 9. september i år. Miljøcampen vil ha fokus på hvordan man kan fjerne plastsoppel og mikroplast fra havområdene i nord.

Miljøcampen #youexplore Varanger 2018 har allerede mottatt delfinansiering fra Barentssekretariatet og nå arbeides det med å søke sponsorer for å fullfinansiere arrangementet. Vi har god kontakt med vårt internasjonale nettverk og medio april 2018 vil det bli sendt ut invitasjoner til ungdommer fra USA, Kina, Russland i tillegg til Norske ungdommer som ønsker å delta på Miljøcampen #youexplore Varanger 2018.

Prosjektgruppa består foreløpig av: **The Dale Oen Experience**, **Inter Arctic** og **Marelius Consulting**.

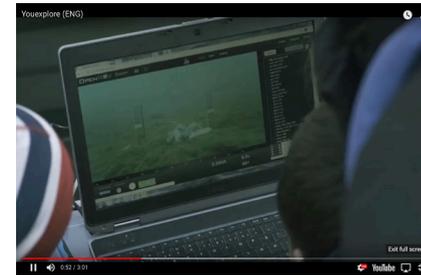


# Event strategy

## 4.1 LOCAL ACTORS: Resources Upcoming Events



Existing program / FIELD WORK



Existing program / FIELD WORK



Added program  
**PROGRAM & BUILD the Blue Pavilion**



# Event strategy

4.2 POSTER on the Noticeboard  
Upcoming Events



Posterdesign underlay by Varanger Kite Club

## Event strategy

4.2 POSTER on the Noticeboard  
Upcoming Events

# BUNKERCUT

## PART I

### Welcoming the Polar Night

Join the event  
**SATURDAY 25th Nov**  
**12-6PM VADSØYA**

**STARTUP**  
**DRILLING for**  
**THE BUNKER**  
**NIGHT OBSERVATORY!**

 **Vadsoya Eco-Garden**  
**VARANGERLAG**

**Legend:**  
■ Navn: Ikke dette degnet, Totalt: 00:00  
■ Nautisk tussmerke: Ikke dette degnet, Totalt: 00:00  
■ Alminnelig tussmerke: Ikke dette degnet, Totalt: 00:00  
Dagstys: 00:00 - 00:00, Totalt: 24:00  
Passerer meridianen/Midnatt: 12:02, 00:02

# Event strategy

4.2 POSTER on the Noticeboard  
Upcoming Events

**BUNKERCUT**  
PART II

Welcoming the Midnight Night Sun

Join the event  
**SATURDAY 18th May**  
**6PM-12AM VADSOYA**

Natt: Ikke dette døgnet  
Totalt: 00:00

Astronomisk tussmørke: Ikke dette døgnet  
Totalt: 00:00

Nautisk tussmørke: Ikke dette døgnet  
Totalt: 00:00

Alminnelig tussmørke: Ikke dette døgnet  
Totalt: 00:00

Dagslys: 00:00 - 00:00  
Totalt: 24:00

Passerer meridianen/Midnatt: 12:02  
Totalt: 00:02

**CUTTING for**  
**THE BUNKER**  
**DAY OBSERVATORY!**

 **Vadsoya Eco-Garden**  
**VARANGERLAG**

ALL DAY

## 5 Appendix



### 5.1 The Exhibition

Final Exhibition: *AHO WORKS STUDIO + DIPLOMA*

*SPRING 2018 Open: 29.05 - 06.06*

Byggehallen, at the Oslo school of Architecture and Design



## 5 Appendix

### 5.1 The Exhibition

Final Exhibition: **AHO WORKS STUDIO + DIPLOMA  
SPRING 2018 Open: 29.05 - 06.06**

Byggehallen, at the Oslo school of Architecture and Design



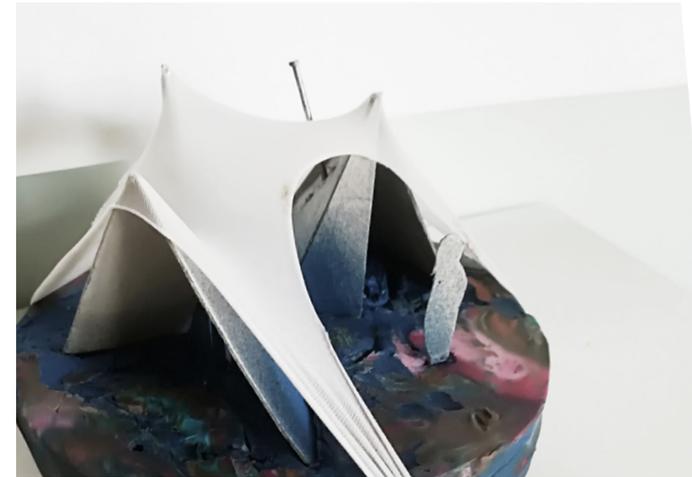
Exhibition space in Byggehallen  
Oslo school of Architecture and Design

## 5 Appendix

### 5.1 The Exhibition

Final Exhibition: **AHO WORKS STUDIO + DIPLOMA  
SPRING 2018 Open: 29.05 - 06.06**

Byggehallen, at the Oslo school of Architecture and Design



The Blue pavilion - a model 1:100



Vadsøya & Ørtangen - a model 1:5000

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Miles Halmaker  
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Finn-Erik Nilsen

### VADSØ BIBLIOTEK

Irene Jullum Hagen  
Geir Østereng, Varanger Nasjonalpark  
Anna Solvoll Rognmo, VAKE Kiteclub

Lars Smeland, Tana kommune  
Bengt Eriksen, Kartverket  
Jan Sverre Ulle, Vardø kommune

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