

Sakha Republic (Russian Federation)

Sakha Republic or “Yakutia”

1

Surface: more than 3.000.000 km²

2

1/5 of the Russian Federation territory

3


More than 40% of the territory is in the Arctic Circle

4

100% of the territory contains **some** permafrost

Trends

- The IPCC estimated that human-induced warming reached approximately 1°C ($\pm 0.2^\circ\text{C}$ likely range) above pre-industrial levels in 2017, increasing at 0.2°C ($\pm 0.1^\circ\text{C}$) per decade (high confidence)¹.
- This trend is likely to be amplified in Arctic regions, as melting sea ice and the loss of the snow cover increase the absorption of solar radiation in the seas and landmasses



It represents a risk
for infrastructure but also
for cultural sites; maritime
transport, access to
terrestrial and maritime
subsistence resources,
food security, community
identity and their vision
of the world.

Arctic communities have developed a particular understanding and sense of place



Ecosystem characterized by frozen ground



Particular nature-culture relationship



Core of the research regarding social impacts of permafrost thaw



Ysyakh Festival – June 2018







CHANGES & RISKS

- Changes of climate and permafrost unfold new interacting processes and stressors, creating new risk patterns for Arctic communities
- Increased knowledge of the risks can be a starting point for understanding the opportunities for, and implications of, possible solutions
- Our research aims to get a better understanding of these new risk patterns through the recompilation of narratives of personal experiences

Fieldwork Yakutsk June-July 2018

Natalia Doloisio - Jean Paul Vanderlinden



Identifying key stakeholders

For mapping the actors involved in coastal permafrost thaw



Administrative reality

Better understanding the Russian administration related to permafrost thaw



Regulatory and policy framework

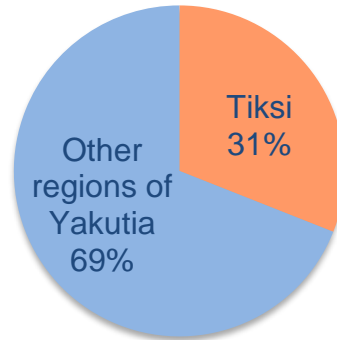
Delineate framework regarding the Arctic region in the Sakha Republic

- ❖ Snowball sampling – we conducted semi direct face to face interviews during the fieldwork expedition.
- ❖ 3 different interview frameworks were conceived in order to address different stakeholders:
 - Institutions and Authorities
 - People who were born or lived in Tiksi/Bykovsky
 - People who were born or lived in other regions of Sakha Republic (included Yakutsk)

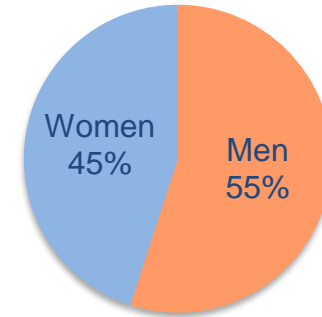
Interviewed

- The Melnikov Permafrost Institute
- Office of the Northern Arctic Peoples Culture
- Office for the Arctic
- Ministry of Nature Protection
- Upper Authorities from the North Eastern Federal University of Yakutsk
- Researchers on the medical area
- Institute for Humanitarian Research on Indigenous Issues
- Mammoth Museum

+ 13 individuals



■ Tiksi ■ Other regions of Yakutia

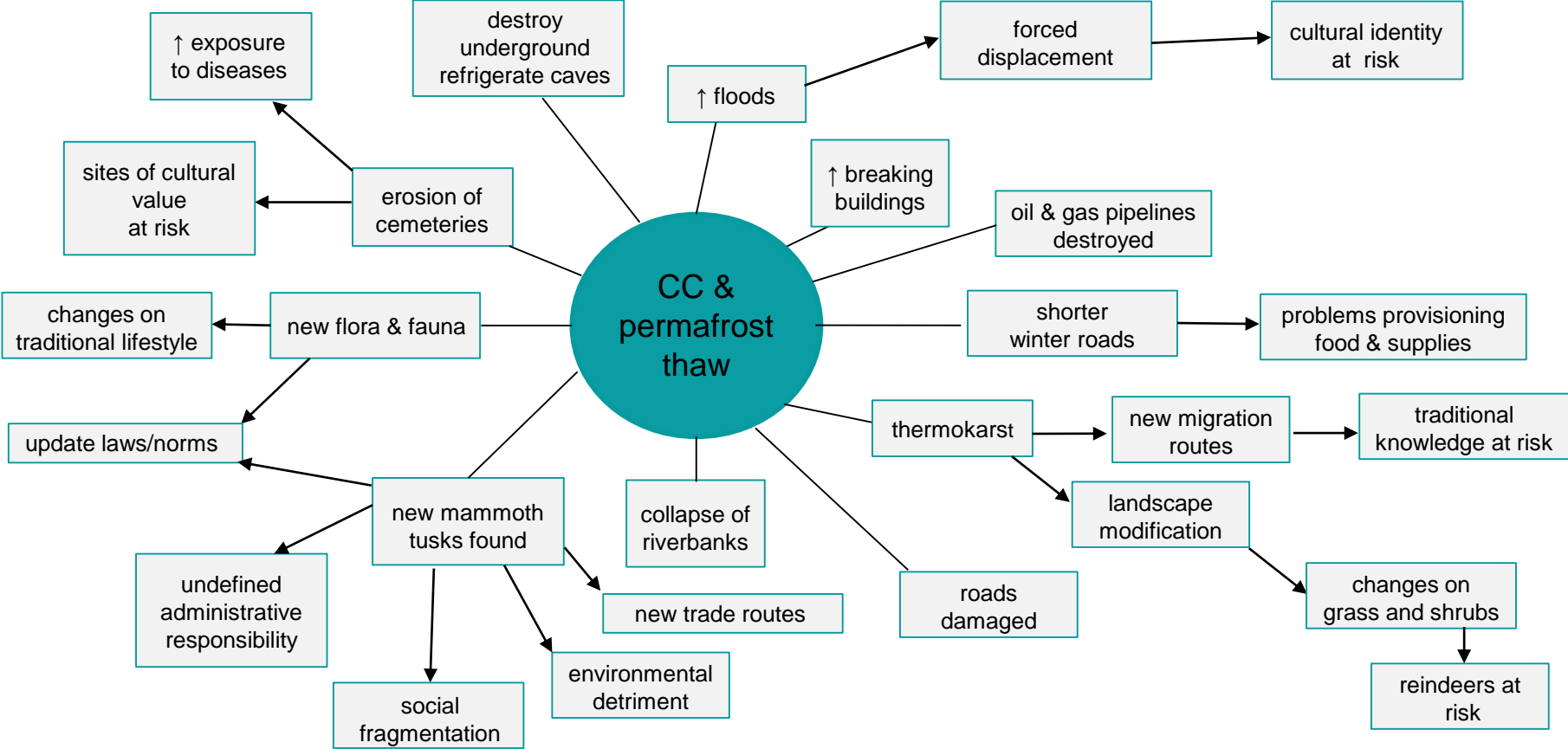


■ Men ■ Women

Average age individual respondents: 28 years old
Average age insitutional respondents: 45 years old

We identified the main themes that emerged from their narratives that could contribute to improve the understanding of the risks and impacts on cultures triggered by changes on climate and permafrost in the Russian Arctic.

« Mental map » of permafrost thaw





FOLLOWING STEPS

- Social science expedition (March 2019)
- Bulunsky Ulus (Sakha Republic): Tiksi, Kyusyur, Nayba, Bykovsky.
- Continue the research on the social and economic impacts of permafrost thawing in coastal regions of Yakutia
- Face to face interviews with local inhabitants to understand their perception on how this issue affects their everyday lives and local economies
- Information obtained during the first expedition will be useful to compare regional and local impacts linked to permafrost thaw and climate change



Thank you

brenda-natalia.doloisio@uvsq.fr

Multidimensional impacts



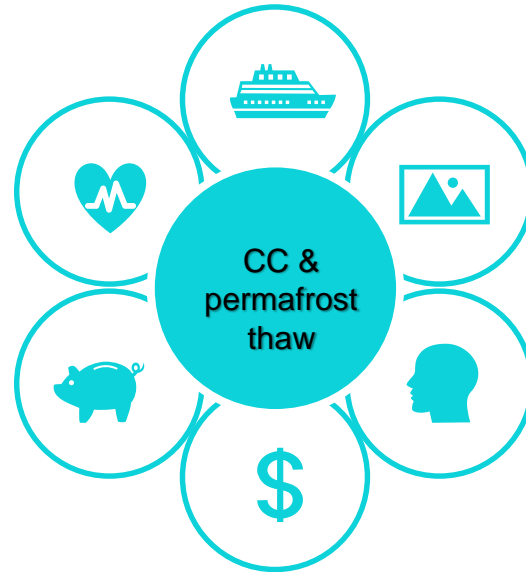
Infrastructure



Health



Flora/Fauna



Landscape

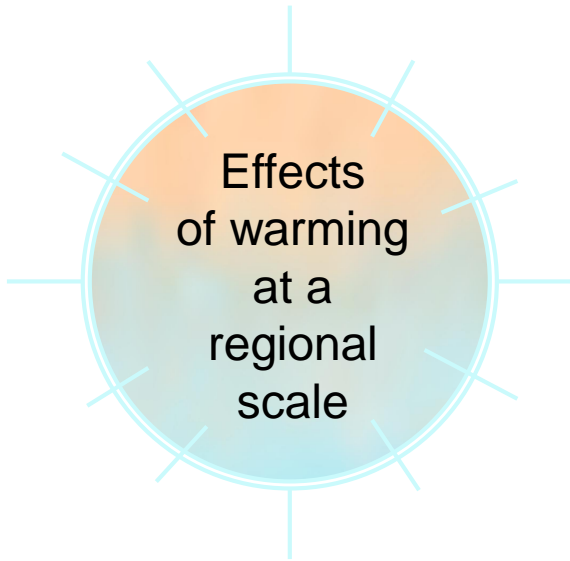


Culture



Local economies





Increase of permafrost temperature

Increase of the Active layer thickness

Coastal erosion and retreat



Severe and multidimensional consequences at a local scale