



Climate change effects on the epidemiology of infectious diseases and the impacts on Northern societies



Photos: Carl-Johan Utsi



What do we want?

Objectives:

- To clarify the impact of climate change on humans and animals among animal husbandry households
- To turn this new understanding into practical tools for decision-makers



What is a climate sensitive infection (CSI)?

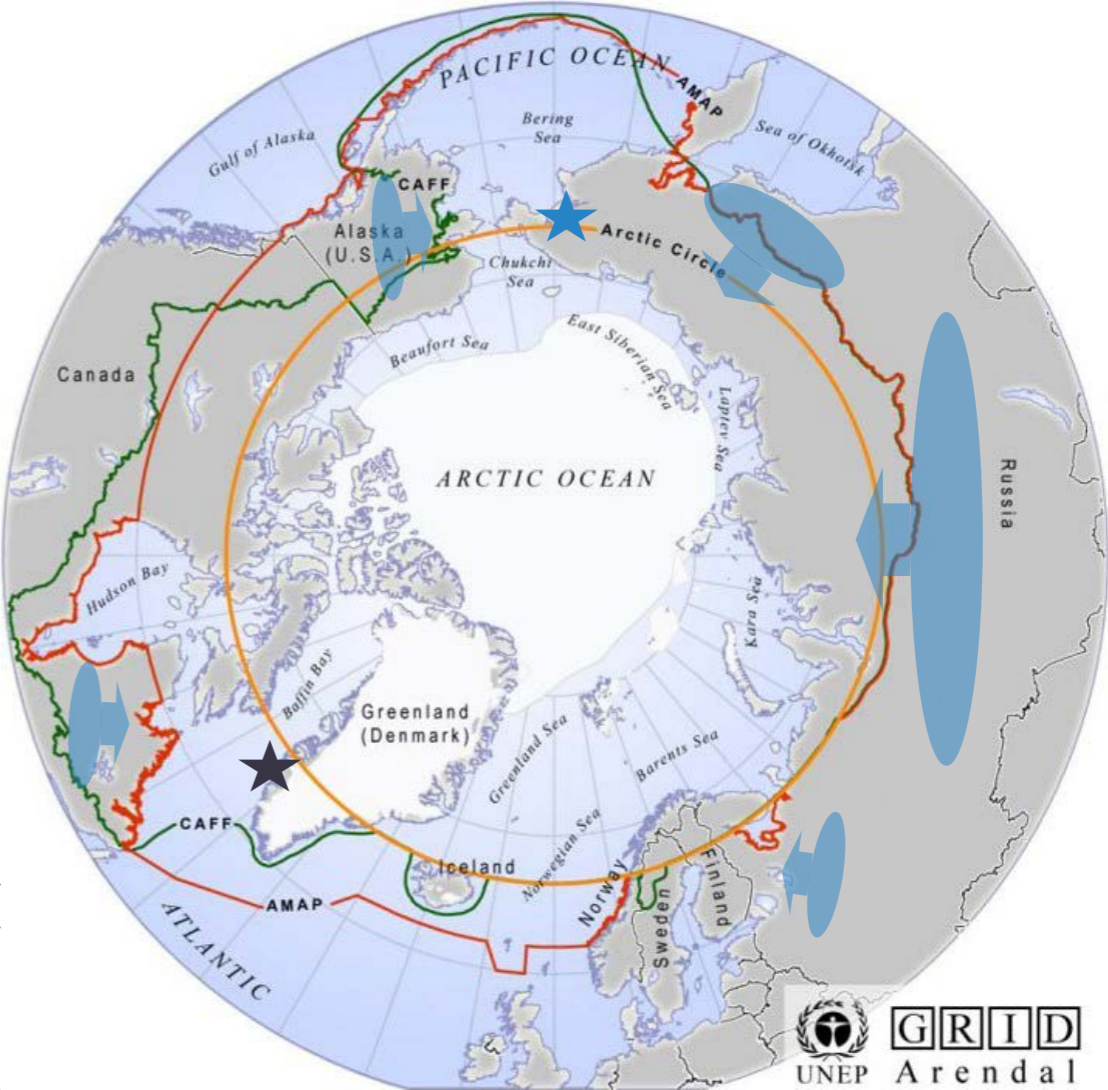
- Anaplasmosis
- Anthrax
- Babesiosis
- Borreliosis
- Brucellosis
- Cryptosporidiosis
- Elaphostrongylus rangiferi
- Fascioliosis
- Hemorrhagic fever with renal disorder
- Leptospirosis
- Necrobacilliosis
- Parapoxvirus
- Pestivirus
- Q-fever
- Tick-borne encephalitis
- Tularaemia
- West Nile Fever

What do we think?

Basic hypothesis:

The habitats of CSI carrier organisms are expanding northwards.

- ★ Yakutsk
- ★ Nuuk
- Geographic CSI extension (hypothetic)



What do we do?

- Gather information on the **prevalence and incidence of CSI in humans and animals** in the North;
- Characterize the **environmental envelopes** under which terrestrial and aquatic disease vectors can thrive and propagate;
- Develop **statistical and biophysical models** that can represent the environmental conditions, and use the models to predict relevant environmental changes under climate change;
- **Relate these changes to the likely spread of CSI** and the associated risks to health and Nordic economies and culture;
- **Provide data and tools** allowing this knowledge to be exploited by societies and individuals to make informed choices.



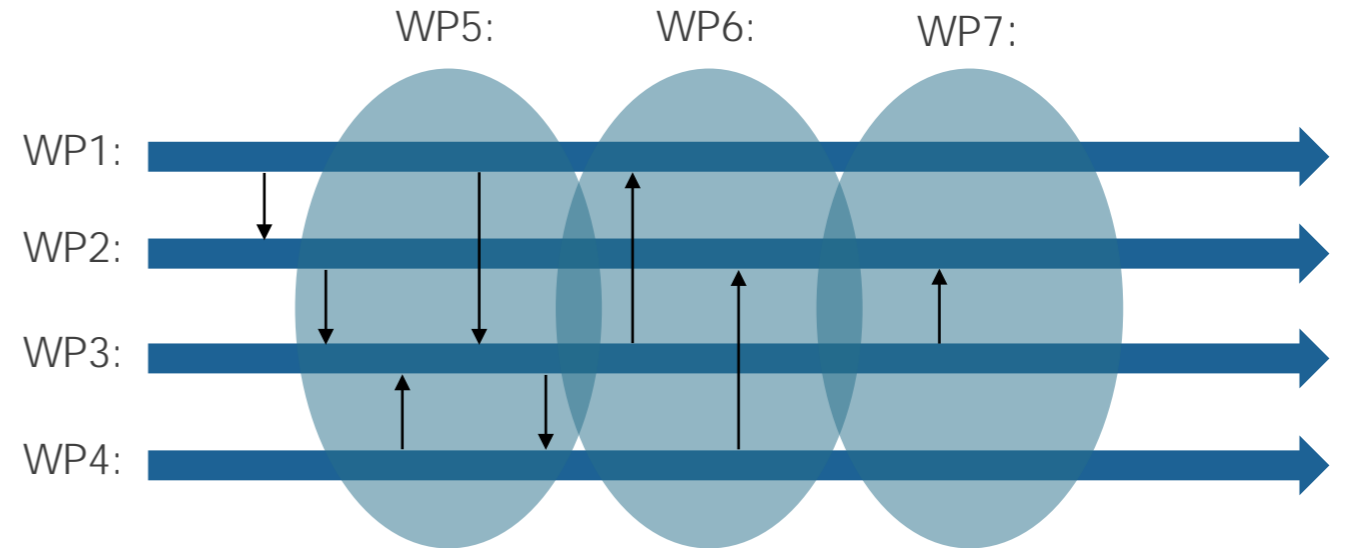
How do we do it?

- WP1: Human and animal diseases in the Nordic region
- WP2: Climate change in the Nordic region
- WP3: Depicting geographic spread of CSI in the Nordic region
- WP4: Societal impacts and adaptation needs of CSI

How do we do it?

Cross cutting issues:

- WP5: Traditional knowledge, gender and local agency
- WP6: The CLINF geographic information system
- WP7: Project management



For whom do we do it?

- >150 stakeholder organisations identified in the Arctic region
- Interactive platform and OPEN DATA at clinf.org



Who are we?

- Nordic Centre of Excellence
- Funded by NordForsk programme "*Responsible Development in the Arctic: Opportunities and Challenges – Pathways to Action*".
- 53 mio. NOK, of which 33 mio. NOK from NordForsk
- > 40 senior scientists
- 8 Cooperating partners + 15 affiliated parties in 8 countries



Photo: Thoralf Fagertun, NRI



Who are we?

Interdisciplinary research team

- Biologists
- Ecologists
- Economists
- Veterinarians
- Climatologists
- Social philosophers
- Human health experts
- Sociologists and anthropologists
- Mathematicians and bioinformaticians
- Experts on gender and traditional knowledge

