

## Project information

### Project title

COAT – Climate-ecological Observatory for Arctic Tundra

### Year

2013/2014

### Project leader

Rolf Ims, UiT

### Participants

- Leader: Rolf A. Ims, UiT
- Co-leader: Audun Stien, NINA
- 22 participants from UiT, NINA, NP, UNIS and Met.no

### Flagship

Terrestrial, Theme: Observation systems for climate effects

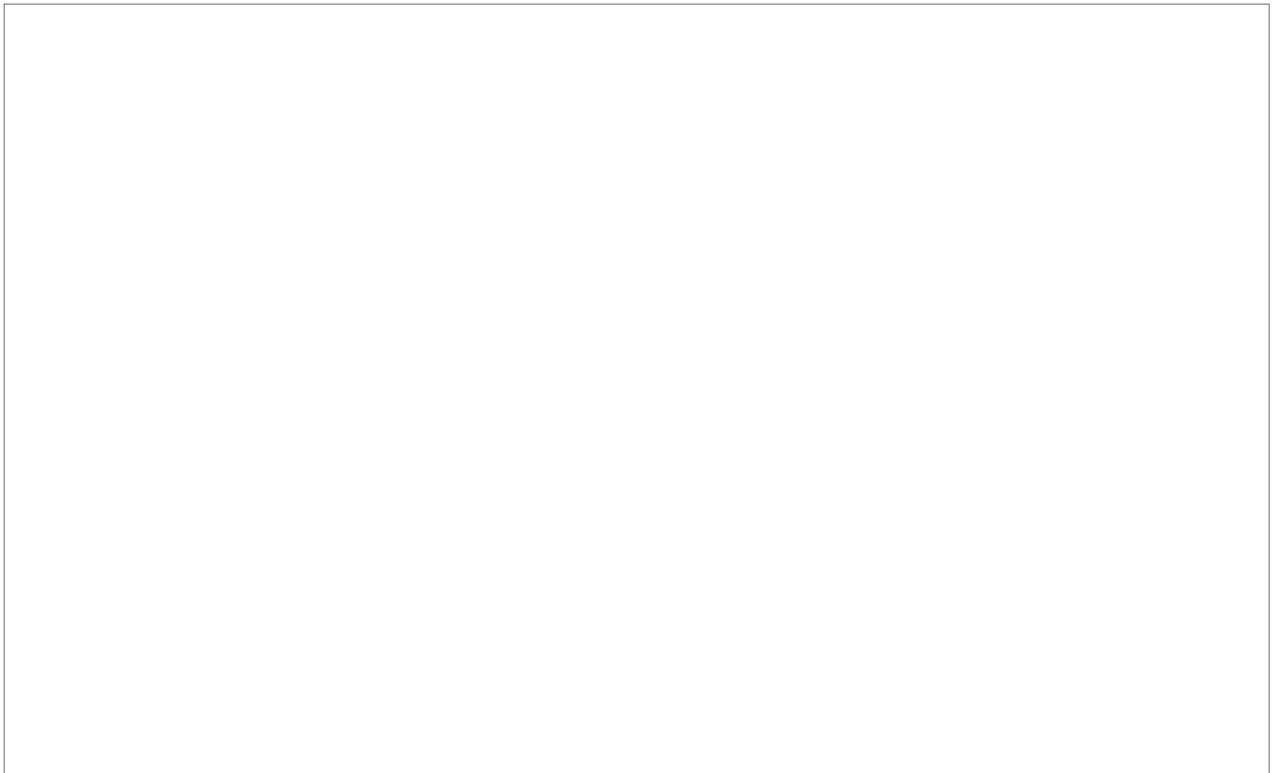
### Funding Source

Fram Centre

### Summary of Results

During 2013 the draft science plan for COAT, that was subjected to review by NFR in 2012, was revised, finalized and published. The Fram Centre grant (though the terrestrial flagship) was used for maintaining field activities connected to running core time series in Varanger Peninsula and Svalbard.

These series includes measures of snow properties and predator area occupancy in winter (see photos below) and dynamics of key species groups at all trophic levels of the food web in the summer.



Photos: Maintaining time series of biological and physical environmental state variables in COAT during the winter. Left: Camera trap maintenance. Right: Snow pit for measuring snow properties.

### For the Management

COAT will have a tight interphase with management at local and national levels.

So far one COAT module is tightly involved in conservation of the endangered arctic fox in Finnmark and another module is involved with FEFO in a project concerning forest management in Finnmark after the devastating moth outbreak after year 2000.

#### Published Results/Planned Publications

- Ims, R.A., Jepsen, J.U., Stien, A. & Yoccoz, N.G. 2013. Science Plan for COAT: Climate-ecological Observatory for Arctic Tundra. Fram Centre Report Series 1, Fram Centre, Norway, 177 pages.
- Ims, R.A. 2013. COAT – Climate ecological observatory for Arctic tundra. Fram Forum 2013, p. 58-59.
- Fuglei, E. & Pedersen, Å. 2013. Long term monitoring data provide knowledge of climate change in Svalbard. Fram Forum, p.54-55.
- Ims, R.A. 2013. How to monitor Arctic tundra ecosystem in the age of climate change. Guest lecture at the University of Rimouski, Quebec 25. October 2013.
- Ims, R.A. 2013. KOAT Klimaøkologisk Observasjonssystem for Arktisk Tundra og AMINOR Avanserte Miljøstudier i Nordområdene. Presentasjon på kontaktmøte Universitetet i Umeå og UiT, Stockholm Januar 2013.

#### Communicated Results

- Ims, R.A. 2013. How to monitor Arctic tundra ecosystem in the age of climate change. Guest lecture at the University of Rimouski, Quebec 25. October 2013.
- Ims, R.A. 2013. KOAT Klimaøkologisk Observasjonssystem for Arktisk Tundra og AMINOR Avanserte Miljøstudier i Nordområdene. Presentasjon på kontaktmøte Universitetet i Umeå og UiT, Stockholm Januar 2013.
- Ims, R. A. 2013. Det terrestre miljøet på Svalbard: Status, trender og kunnskapsbehov. Kunnskapsseminaret, Longyearbyen, November 2013.
- Ims, R.A. 2013. Challenges to the arctic environment and biodiversity, Presentation at The new Ålesund Seminar hosted by foreign minister Espen Barth-Eide, May 2013.
- Ims, R.A. 2013. Klimaendringer i Nord. utfordringer for kunnskapsbasert naturforvaltning. Miljømila, Møte for local-regionalforvaltning i Troms arranger av fylkesmannen.
- Henden, J.A. 2013. Presentation of the ptarmigan module of COAT at workshop organiaed by the Directorate of Nature Management.

#### Budget in accordance to results

The Fram Centre funding has contributed essentially to maintaining the core monitoring activity within COAT in the interim period before full external funding is secured.

#### Could results from the project be subject for any commercial utilization

No

#### Conclusions

COAT has the ambition to become a path-breaking adaptive monitoring system and long-term research initiative for the Norwegian terrestrial arctic in the age of rapid climate change. To echo the panel of internationally recognized experts that reviewed the COAT Science plan:

*“The combination of an important topic and an original approach [...] will make a world-class contribution in the science of ecology”.*

*“Making this well-conceived and major initiative operational will simply rely on resources as all necessary components, particularly concepts and experience, are present.”*