

The Ny-Ålesund Terrestrial Ecology Flagship side meeting, 4th Nov 2019,

Oslo

The Ny-Ålesund Terrestrial Flagship is one of four [NySMAC flagship programs](#). The aims for the flagship are to coordinate and integrate international and national ecosystem-based research on tundra, fresh water and soil in and around Ny-Ålesund, to assess their sensitivity and resilience to environmental changes.

The side meeting will build on the previous Terrestrial flagship activities. The aims are to further develop and re-inforce the cooperation with the Terrestrial Flagship in Ny-Ålesund.

We are planning two main sessions for the side meeting:

1. Finish a scientific review and opinion publication with a writing team

The publication will build on previous SSF funded workshops in Ny-Ålesund (August 2018) and Longyearbyen (October 2019) where we started to draft a common paper aiming to:

1. Describe the system
2. Identify the most important ecosystem components and interactions that can be a platform for further research
3. Identify the main gaps in current work
4. Recommend future studies that will contribute to missing knowledge.

The side meeting will focus on finishing this paper and discuss future joint activities within the flagship. The manuscript will focus on

- an overall integration of processes and fluxes
- studying the sensitivity and resilience of the terrestrial biome in Ny-Ålesund to climate change
- consider different levels of ecosystem organization by taking levels of space and time into account.

The manuscript will have an integrated ecosystem approach with an overview of identified trophic links within and between ecosystems and relevant parameters. The focus of this manuscript is on annual variability, gradual changes and ecosystem resilience.

2. Discuss and organize the next step for the Ny-Ålesund Terrestrial Flagship

The Flagship SSG project and funds for 2018-19 finish end of 2019. The discussions and plans for the future direction of the Flagship at the side meeting will build on scientific topics outlined at the workshop in Tromsø during the Ny-Ålesund Science week in September 2015.

Six working groups were formed around existing research projects run by various groups or institutions in Ny-Ålesund. These groups will be a basis for contributions within their field of research. The working groups cover the following scientific topics and consist of participating scientists:

- WG 1: Animal adaptations (Åshild Ønvik Pedersen and Maarten Loonen)

- WG 2: Vegetation dynamics (Masaki Uchida and Angela Augusti)
- WG 3: Soil processes and communities (Mette Svenning and Stefano Ventura)
- WG 4: Carbon and Nutrient fluxes (Angela Augusti and Masaki Uchida)
- WG 5: Freshwater systems (Elie Verleyen, Dirk Mengedoht, Josef Elster)
- WG 6: Sensitivity of ecosystems and integration (Maarten Loonen and Elie Verleyen)

The Terrestrial Flagship aim to develop links with the other flagships in Ny-Ålesund and SIOS to ensure an efficient description, storage and exchange of data. This group will work following a cyclic process of gathering information from the other working groups, providing an integration, describing knowledge gaps and subsequently disseminating their conclusions to the relevant working groups.

Agenda

09:00-09:30: Welcome by Maarten Loonen – short summary of Flagship activities to date.

09:30-12:00: Structured writing groups to contribute to the joint publication –aiming to identify the main gaps and future direction for terrestrial research in the High-Arctic.

12:00-12:30: Lunch

12:30-14:00: Plan the next steps for the Terrestrial Flagship activities. Common discussion in plenum.

14:00-14:30: Coffee break

14:30-17:30: Summary of writing groups contributions – final discussion on gaps and needs and future cooperation between flagships

19:00: Dinner