

Memorandum 2/11/2018

CC4: Early warnings: approaches to assessing and measuring change in biodiversity

This memo provides a summary of reports submitted on the session MB5 organized at the Arctic Biodiversity Session in Rovaniemi, Finland, October 9-12 organized by the South Iceland Nature Research Centre and the US National Parks Service.

Attendance: 65

Arctic Biodiversity Assessment recommendation themes most prominently addressed in the session:

- Climate change
- Addressing stressors

Key points raised in the session that were important to note:

- The general theme of the session revolved around modelling the impacts of climate change on biodiversity. Several important aspects and difficulties in modelling were identified: increase in climatic extremes (as opposed to general warming trends, by Alexey Kokorin), accuracy of distribution models at local levels (by Sirke Piirainen), non-linear effects in species responses (by Erpur Hansen), effects on ecosystems versus species (by Tytti Kontula) and lack of good data on current species distribution (Hallvard Strom).

Recommendations/actions identified for how to deal with the issues raised in the session:

- It was noted that caution should be taken when reporting on modelling results, and uncertainties should be mentioned. We should think about the impacts of extreme climate events (heat waves) as opposed to general trends in temperature, which can impact different eco-physiological responses of species and their prey. Increased availability of data can help distribution models and the modelling of climate change impacts.

Take home message from the session:

- Modelling impacts of climate change on biodiversity can be a powerful tool to assess future impacts. However, modelling results should be treated with caution.