

Séminaire jeudi le 07 novembre 2019 14:00 / Seminar Thursday November 7th 2019 14:00h

Sujet/Subject: Arctic Observing System Experiments at ECMWF for the APPLICATE project

Langue/language : Anglais/English

Conférenciers/Lecturers: Heather Lawrence (ECMWF)

Résumé/Abstract:

In this talk I present a study carried out in the framework of the APPLICATE Horizon-2020 project, to assess the impact of different Arctic observing systems on short and medium range weather forecasts at ECMWF. Observing System Experiments were performed removing different observation types from the full observing system north of 60 degrees, and the impacts on short and medium range forecasts were analysed. The analysis is supported by a comparison to Forecast Sensitivity to Observation Impact diagnostics.

All Arctic observations were found to have a positive impact on forecast skill in the Arctic region with the largest impacts on tropospheric forecasts due to microwave sounding data in the summer and in-situ observations in the winter. Observations in the Arctic were also found to have a positive impact on forecasts in the mid-latitudes at longer lead-times. The lower relative impact of microwave sounding data in winter is likely due to difficulties assimilating the data over snow and sea-ice, but there is also the suggestion of an increased importance of conventional data in winter, and other factors may also play a role.