SPECIAL PROJECT PROGRESS REPORT

Progress Reports should be 2 to 10 pages in length, depending on importance of the project. All the following mandatory information needs to be provided.

Reporting year	2017
Project Title:	Links between warming Arctic and climate extremes in northern Eurasia (LAWINE)
Computer Project Account:	SPFIUOTI
Principal Investigator(s):	Petteri Uotila
Affiliation:	Finnish Meteorological Institute
Name of ECMWF scientist(s) collaborating to the project (if applicable)	…… ……
Start date of the project:	1.1.2017
Expected end date:	31.12.2019

Computer resources allocated/used for the current year and the previous one

(if applicable)
Please answer for all project resources

		Previous year		Current year	
		Allocated	Used	Allocated	Used
High Performance Computing Facility	(units)	0	0	2,000,000	1,176,221
Data storage capacity	(Gbytes)	0	0	300	12

Summary of project objectives

(10 lines max)

We use ECMWF computational resources to assist us in completing model simulations on the EC-Earth climate model to address the LAWINE scientific objectives which aim to better understanding of complex processes linking Arctic amplification with mid-latitude climate extremes. We carry out surface temperature perturbed climate model simulations to determine teleconnections between the Arctic and lower latitutes. Most simulations are carried out on the FMI supercomputer, some on the ECMWF system.

Summary of problems encountered (if any)

(20 lines max)

No bigger problems. EC-Earth installed and run fine, although it consumes more resources than expected due to which we may not be able to carry out as many simulations than expected on the ECMWF system.

Summary of results of the current year (from July of previous year to June of current year)

This section should comprise 1 to 8 pages and can be replaced by a short summary plus an existing scientific report on the project

We have studied the on-line material and user guides to learn about the ECMWF computational system. We have installed and tested EC-Earth on cca successfully, including software that is used to diagnose and visualise the model output. Both fully coupled and atmosphere-only configurations worked fine. These simulations will become members of the ensemble created in the project. We have completed three 10-year runs so far, including a run with fully coupled configuration.

List of publications/reports from the project with complete references

None yet, two publications have been submitted and are under review.

Summary of plans for the continuation of the project

(10 lines max)

We continue generating ensemble members on the EC-Earth climate model on the FMI supercomputer and on the ECMWF one. We are already analysing observed teleconnections based on ERA-20C reanalysis, and will compare those findings with the model produced Arctic-mid-latitudes linkages. This will help in evaluating the model skill. These will results will be written in manuscripts and published in scientific journals in 2018-2019.