

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 2012

Project Title: High-resolution ensemble forecasts

Computer Project Account: spnoteps

Principal Investigator(s): Inger-Lise Frogner

Affiliation: Norwegian Meteorological Institute (met.no)

Name of ECMWF scientist(s) collaborating to the project (if applicable)

Start date of the project: 2012

Expected end date: 2012

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)			450 000	0
Data storage capacity	(Gbytes)			2000	0

Summary of project objectives

(10 lines max)

The aim of the project was to start testing a convection-permitting ensemble prediction system with the Harmonie model, and possibly also produce input to this system by running a high resolution version of ECMWF's EPS.

At the Norwegian Meteorological Institute (met.no) we have run a limited area ensemble prediction system (NORLAMEPS) since 2005 at a resolution of about ~12 km (Aspelien et al. 2011. Frogner et al. 2006), part of this ensemble has been run at ECMWF (TEPS, special project ended 2011, spnoteps). Motivated by an increasing need for forecasting potential high impact weather, there is a growing demand to produce convection-permitting ensembles. At met.no we have some experience in this area using the Unified Model (Kristiansen et al., 2011). The development of a convection-permitting ensemble system using the Harmonie model is done in the context of the HIRLAM consortium. We are also involved in the FROST project (which is the forecast and research demonstration project for the Sochi 2014 winter Olympic games), where we also will set up an EPS system with Harmonie as a research topic.

Summary of problems encountered (if any)

(20 lines max)

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

The project has yet not started, and hence no SBUs are used. This is due to my limited time to do research after I got the position as Project leader for Probabilistic forecasting in Hirlam-B from January this year.

References

Aspelien, A., Iversen, T., Bremnes, J. B. and Frogner, I-L. 2011. Short-range probabilistic forecasts from the Norwegian limited-area EPS. Long-term validation and a polar low study. *Tellus 63A*

Frogner, I.-L., Haakenstad, H. and Iversen, T. 2006. Limited-area ensemble predictions at the Norwegian Meteorological Institute. *Q. J. R. Meteorol Soc.* 132, 2785–2808. doi:10.1256/qj.04.178.

Kristiansen, J., Sørland, S. L. , Iversen, T., Bjørge, D. and Køltzow, M. Ø. 2011. High-resolution ensemble prediction of a polar low development. *Tellus 63A*

Summary of plans for the continuation of the project

(10 lines max)

As leader for Probabilistic forecasting in Hirlam-B I will focus on developing the ensemble systems in the context of HIRLAM and the special project SPNOGEPs. Hence there is no application for continuation of this project.

