

# SPECIAL PROJECT INTERIM REPORT

Interim 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** .....2005.....

**Project Title:** Investigation on LAM Ensembles for Wind Power Prediction.....

**Computer Project Account:** SPDKWEPS.....

**Principal Investigator(s):** Kai Sattler (ksa@dmi.dk), Maryanne Kmit.....  
(kmit@dmi.dk), Henrik Vedel (hev@dmi.dk).....

**Affiliation:** Danish Meteorological Institute.....

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

**Start date of the project:** 2003-03-01.....

**Expected end date:** unspecified.....

**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
<b>High Performance Computing Facility</b>	(units)	50.000	~20.000	50.000	~20.000
<b>Data storage capacity</b>	(Gbytes)	250	~200	250	~200

## **Summary of project objectives**

(10 lines max)

The objective of the special project is to investigate the potential of LAM ensembles for wind forecasting and wind power prediction. In particular the High Resolution Limited Area Model HIRLAM is utilized in the study. It receives initial and boundary conditions from the ECMWF-EPS model. The study includes both work on ensemble simulations as well as investigations on post-processing.

## **Summary of problems encountered** (if any)

(20 lines max)

There were no specific problems encountered.

## **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

A verification of the simple HIRLAM ensemble that integrates all the 51 members of the ECMWF-EPS was performed. The DMI-HIRLAM model (version 2003) was nested daily into the individual ECMWF-EPS members over Europe during winter 2002/03, which provided a four month period for the verification. A major conclusion from this was that the use of a simple dynamical downscaling of all members from the global ECMWF-EPS using the higher resolution of the HIRLAM model did not improve the 10m wind speed forecast skill scores on average. Details can be found in Feddersen and Sattler (2005).

## **List of publications/reports from the project with complete references**

Feddersen, H.; Sattler, K. 2005: Verification of wind forecasts for a set of experimental DMI-HIRLAM ensemble experiments. . *DMI Sci. Rep.*, **05-01**, 15pp.. Available from [www.dmi.dk](http://www.dmi.dk).

## **Summary of plans for the continuation of the project**

(10 lines max)

It is planned to implement a recent version of the DMI-HIRLAM model for performing new ensemble experiments and exploring new ensemble designs.