

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 2006.....

Project Title:
Bias and balance in the Ensemble Kalman Filter.....

Computer Project Account: SPNLENKF.....

Principal Investigator(s):
Dr Olwijn Leeuwenburgh.....
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Affiliation: Utrecht University.....

Name of ECMWF scientist(s) collaborating to the project (if applicable)
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Start date of the project: May 2006.....

Expected end date: May 2007.....

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)			42000	19
Data storage capacity	(Gbytes)			0	0

Summary of project objectives

(10 lines max)

Investigate the possibility of two types of bias correction during ocean data assimilation with the Ensemble Kalman Filter in seasonal forecast systems.

Summary of problems encountered (if any)

(20 lines max)

It is not possible to call SVD routines installed on the HPCD in parallel.

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

Since approval of the project the setup for the ensemble runs has been optimized. This consists of several activities:

1. Implementation of all diagnostics required for analyzing the runs.
2. Checking the performance of several matrix decomposition routines in parallel runs.

It was discovered that the LAPACK SVD routine can not be called in parallel on the IBM, and alternative packages were tried (unsuccessfully it should be noted, so the analysis step must be done on one processor unfortunately).

3. Final testing and correction of the bias correction part of the code, which has been added for this project.
4. Testing of several parameter settings for the bias correction, to find the optimal choice(s) for the one-year runs.
5. Generation of a first-guess mean sea level field from the control run.

All these activities are essential in making sure that the ensemble runs are successful. Since the testing has been on the analysis step of the assimilation runs, and since it has turned out that this step will have to be done on a single processor, not many resources have been spent yet. This will change rapidly once the ensemble runs are started. At this point all preparation has finished, which means that the first runs can be started in the first week of July.

List of publications/reports from the project with complete references

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Summary of plans for the continuation of the project

(10 lines max)

At this point the immediate plan is to start the ensemble runs. During the course of the analysis of the runs it may become clear that additional runs are required in order to address unforeseen issues. The current allocation would not suffice for additional runs. For this reason an application for continuation in the next year has been submitted.