

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: Implementation and validation of radar data-assimilation in the HARMONIE mesoscale weather prediction model.

Computer Project Account: SPNLVERK

Principal Investigator(s): Dr. W.T.M. Verkley

Affiliation: Royal Netherlands Meteorological Institute (KNMI)

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

Start date of the project: 2012

Expected end date: 2014

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)			300000	0
Data storage capacity	(Gbytes)			400	0

Summary of project objectives

(10 lines max)

To study the impact of radial velocity and reflectivity data from the Dutch radar stations in De Bilt and Den Helder on analyses and forecasts made by a test-version of the HARMONIE mesoscale forecasting system.

To investigate the influence of quality control on the data used, in particular of the BALTRAD quality control software.

Summary of problems encountered (if any)

(20 lines max)

There have been some problems with the BALTRAD software, connected with 32 versus 64 bits encoding of data.

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

This special project, started at the beginning of 2012, has been a request for computer resources needed to add radar data to the set of observations used by the mesoscale weather prediction model HARMONIE. The main software packages that are used to accomplish this are CONRAD and BALTRAD. The CONRAD software is developed to convert any local radar data format into mf-bufr, which is the format that HARMONIE is able to read. The BALTRAD software package contains quality control routines that are necessary to deal with issues such as de-aliasing of radial winds.

Although not optimal yet, a system is now available to process the data from the Dutch stations at De Bilt and Den Helder and impact studies have been carried out. However, until the moment of writing, most time has been spent on incidental cases, using the regular computer budget. In the course of the coming weeks a system will become available to study the impact of radar data on a more regular basis. Once a day, we will use the first guess and observations of a semi-operational test-version of HARMONIE that runs on a small domain around the Netherlands and repeat the forecast both with and without the use of radar data. In this way we hope to obtain results on the impact that can be processed statistically. For this particular part of the work the allocated resources for the year 2012 will be used.

So, the full use of the computer resources will start in the coming weeks.

List of publications/reports from the project with complete references

Summary of plans for the continuation of the project

(10 lines max)

As already mentioned above, the project will continue by studying the impact of radar data on a regular basis. Attention will also be paid to the influence of the quality control.