

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 2011

Project Title: Tuning COSMO-ME to H-SAF requirements

Computer Project Account: SPITHSAF

Principal Investigator(s): zauli@meteoam.it, torrisi@meteoam.it

Affiliation: CNMCA, Italian Meteorological Service

Name of ECMWF scientist(s) collaborating to the project (if applicable) Antonio VOCINO (vocino@meteoam.it), Daniele BIRON (biron@meteoam.it), Francesca MARCUCCI (marcucci@meteoam.it)

Start date of the project: 2008

Expected end date: 2011

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)	1500000	100%	2300000	0%
Data storage capacity	(Gbytes)	700		700	

Summary of project objectives

(10 lines max)

The present project is set up in order to support the Italian Met. Service (IMS) contribution to the Hydrology Satellite Application Facility (H-SAF) project. In particular its main goal is to perform all the development and test activities necessary for the tuning of the COSMO-ME model of the Italian Meteorological Service to H-SAF requirements. This will involve the implementation and test of the following changes: extension of the area coverage; increase of the number of vertical layers; raising the model top.

Each change implies experimental runs which will be performed in parallel to the current operational IMS NWP chain. The impact of each change will be evaluated comparing forecasts with conventional observations.

Summary of problems encountered (if any)

(20 lines max)

There was a typing error in the form request for the Special Project (2009-2011). We requested 1200 units instead of 1200 kunits. This problem has stopped the work on this project in 2009. No work has been done during 2011.

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

Some computational resources were used to test the change of the COSMO-ME model domain. In particular COSMO-ME has now:

- the new rotation pole of the COSMO lat-lon grid at (47,-170)
- the domain enlarged (especially) westwards
- the Gal-Chen height based vertical coordinate

The above changes in COSMO-ME configuration do not have any significant impact on the forecast skill of the model, except for a small increase in the absolute value of the Mean Sea Level Bias (verification against observations).

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)

The plan is to test the following changes in the COSMO-ME configuration for three months in summer and other three months in winter:

- extension of the area coverage
- increase of the number of vertical layers
- raising the model top

This will be adapted to the allocated resources.