SPECIAL PROJECT PROGRESS REPORT

Reporting year	Date: 30 June 2011
Project Title:	Large-scale and local control of severe weather: towards adaptive ensemble forecasting
Computer Project Account:	SPDEADEN
Principal Investigator(s):	George Craig
Affiliation:	Ludwig-Maximilians-Universität München
Name of ECMWF scientist(s) collaborating to the project (if applicable)	Pieter Groenemeijer Christian Keil
Start date of the project:	1.1.2011
Expected end date:	31.12.2013

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)	0	0	300,000	0
Data storage capacity	(Gbytes)	0	0	500	0

Summary of project objectives

(10 lines max)

The aim of the project is to assess the relative importance of these sources of forecast uncertainty and to develop the concept of an adaptive ensemble forecasting system that allocates the limited time and computing resources in an optimal way between ensemble members that reflect synoptic-scale uncertainty, those that reflect unresolved small-scale processes, and additional nested models to give very high resolution in the target region.

Summary of problems encountered (if any)

None.

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

Resources have not been used yet, because of some delays that rendered the use of computations at ECMWF not yet necessary as of 15 June 2011. We expect to commence usage of ECMWF computing resources in July.

List of publications/reports from the project with complete references

None yet. An article named "Ensemble forecasting with a stochastic convective parametrization based on equilibrium statistics" by P. Groenemeijer and G.C. Craig is being prepared for submission.

Summary of plans for the continuation of the project

ECMWF computing resources are requested to rerun the ECMWF EPS and the COSMO-LEPS clustering algorithm for selected cases, and to run COSMO model experiments with perturbations introduced through the stochastic Plant-Craig schem and a stochastic boundary-layer parameterization to be developed.