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:	Development and testing of a microphysical aerosol scheme in the IFS
Computer Project Account:	spgbwood
Principal Investigator(s):	Matt Woodhouse
Affiliation:	University of Leeds
Name of ECMWF scientist(s) collaborating to the project (if applicable)	Jean-Jacques Morcrette, Johannes Flemming ……
Start date of the project:	April 2012
Expected end date:	December 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	25672
Data storage capacity	(Gbytes)	-	-	2000	?

Summary of project objectives
(10 lines max)

The aim of the project is to further the incorporation of the GLOMAP-mode aerosol scheme within the IFS, as part of the MACC project. Currently, the scheme is available at Cy37r3. Present tasks include moving to the latest cycle, adding code to calculate AOD, and coupling to the C-IFS chemistry scheme.

Summary of problems encountered (if any)
(20 lines max)

Delay in getting new cycle with GLOMAP code, due to changes in 'plumbing' and organisation of code.

Problem with PEXTRA diagnostics not working - worked in old cycle. Unresolved at time of writing.

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

This special project has been active for only a couple of months. Therefore there are no significant results to report. Recent work has consisted of testing the latest cycle with the GLOMAP code.

The AOD code is ready to be inserted into the IFS, having already been tested in another framework, and offline. From that point, a long simulation (12 months) with the AOD code will be conducted. Calculated AOD's will be compared against ground and satellite estimates.

The coupling with the C-IFS chemistry scheme (in conjunction with Johannes Flemming at ECMWF) has already been scoped out. An interface routine has been written. When the GLOMAP code has been tested in cy38r1, the GLOMAP and C-IFS branches will be merged and tested.

List of publications/reports from the project with complete references
n/a

Summary of plans for the continuation of the project
(10 lines max)

Work in the coming 12 months or so will consist of taking the GLOMAP code (with C-IFS) up to a pre-operational standard. This will require the AOD code to be functioning, in order to be combined with the existing AOD data assimilation system within the IFS. This latter work to be conducted with Angela Benedetti at ECMWF.

One considerable technical challenge is keeping pace with the frequent changes to the main trunk of the IFS.

A parallel special project is running with the LATMOS institute in Paris. Slimane Bekki and Houda Yahi are working with GLOMAP in the IFS to optimise the aerosol scheme for use in the stratosphere. The results of that project will ultimately feed into the development ongoing within this project.