



European Commission's 7<sup>th</sup> Framework Programme  
Grant Agreement No. **226520**

Project acronym: **COMBINE**

Project full title: **Comprehensive Modelling of the Earth System for Better  
Climate Prediction and Projection**

Instrument: Collaborative Project & Large-scale Integrating Project

Theme 6: *Environment*

Area 6.1.1.4: *Future Climate*

ENV.2008.1.1.4.1: *New components in Earth System modelling  
for better climate projections*

Start date of project: 1 May 2009

Duration: 48 Months

**Milestone Reference Number and Title:**

**M7.3: Analysis of phase II runs including impact of new components finished**

**Lead work package for this milestone:**

**WP7**

**Organization name of lead contractor for this milestone:**

**MPG**

**Due date of milestone: 31 October 2013**

**Actual submission date: 23 October 2013**

Table 1. Summary of analyses performed. (\*) Simulations for delayed contribution are still running.

<b>Model system</b>	Partner	New component	Corresponding COMBINE work package	Contribution to radiative feedback analysis	Contribution to carbon/nitrogen cycle feedback analysis	Contribution to cryosphere feedback analysis
<b>MPI-ESM/ COSMOS</b>	MPI-M	C/N cycle	1		√	
	MPI-M / ETH-Z	Aerosols and clouds	2	√		
	MPI-M	Greenland ice sheet	4	√		√
<b>NorESM</b>	UiB	C/N cycle	1	√	√	
<b>HadGEM</b>	METO	C/N cycle	1		√	
<b>IPSL-CM</b>	IPSL	C/N cycle	1		(*)	
	IPSL	Aerosols	2	(*)		
	UCL / IPSL	New sea ice	4	√		√
<b>CNRM-CM</b>	MF-CNRM	C/N cycle	1		√	
	MF-CNRM	Sea ice / ice sheets	4			√
<b>EcEarth</b>	DMI	Greenland ice sheet	4	√		√

Phase II simulations have been carried out by the partners. The scientific analysis of the simulation focused in WP7 on three topics:

- 1) The radiative feedbacks (see Deliverable D7.5 for details)
- 2) The carbon/nitrogen cycle feedback (see Deliverable D7.6)
- 3) The cryosphere feedback (see Deliverable D7.7)

Besides CMCC, which was not expected to contribute to this Milestone, all model systems contributed to some of the scientific analyses. Five model systems contributed to the radiative feedback analysis by submitting data for an intercomparison of the Gregory-style feedback analysis (one more contribution is pending). Four model systems contributed to the analysis of carbon/nitrogen cycle feedbacks (one more pending). Four models contributed to the cryosphere feedback analysis.