

# 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** .....2015.....

**Project Title:** **Influence of land-use transformations on local and regional climate in Germany**  
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**Computer Project Account:** spdetoel

**Principal Investigator(s):** Merja Tölle

**Affiliation:** University of Gießen, Germany

**Name of ECMWF scientist(s) collaborating to the project (if applicable)** Carsten Maas.....  
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**Start date of the project:** 1.1.2014

**Expected end date:** 31.12.2016

**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
<b>High Performance Computing Facility</b>	(units)			125000.00	0.23
<b>Data storage capacity</b>	(Gbytes)			90000	

## Summary of project objectives

(10 lines max)

To gain knowledge of the ecological impacts of transformation of low productive land into agricultural systems with high productivity in Germany this project will combine measurements and modeling approaches to upscale the fluxes of biotic and abiotic drivers to landscape level and study their interactions between land and atmosphere. Climate projections (A1B) modeled by General Circulation Model (planned: ECHAM5-MPIOM) will be dynamically downscaled to regional and local scales by means of a Regional Climate Model (CCLM coupled to the Community Land Model). The uncertainties of projections will be evaluated. The models' outputs will be tested for biases. The land surface model coupled with the regional climate model will be parameterized with the help of water, energy and greenhouse gas measurements and remote sensing. The effects of spatial and temporal variability on ecological functions will be quantified. With this we will improve the sustainability of land use in lowland temperate regions.

## Summary of problems encountered (if any)

(20 lines max)

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Adapting the regional climate model to the new Cray system is time demanding. In addition, forcing data for the regional climate model are not available at ECMWF and need to be transferred in order to do the simulations with the correct data. Porting huge data to ECMWF is not very practicable.

## 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

Ported and installed the regional climate model on the new Cray system. Adapting the scripts for the regional climate model to the new system is still ongoing.

## 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)

Adapting the regional climate model to the Cray system is not finished and will continue. This will be followed by some test runs on the Cray system. Porting the huge forcing data to ECMWF is very unpracticable.....  
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