Project: **HP(CP)²**
Project title: **HP(CP)², Module M (Modelling) development**
Project leader: **Björn Stevens, Joachim Biercamp, Siegfried Raasch**
Allocation Period: **01.01.2013 – 31.12.2013**

Project Overview

HD(CP)² – High definition clouds and precipitation for advancing climate prediction - is a framework project funded by BMBF, it focuses on the question as to whether very high-resolution models, integrated for short time periods (days) over relatively large domains, can advance understanding of cloud formation and precipitation processes in climate simulation. The project is coordinated by the MPI-M, but lead by a steering committee that broadly represents the atmospheric science research community within Germany.
The three overarching goals of HD(CP)² are
•   Improving climate predictions
•   Quantification of uncertainties
•   Making a step forward in research of environmental computing and remote sensing.

The project is conceptualized as having three phases, the first phase is tool oriented. One of its elements is the development of a very high resolution limited domain version of ICON. Other modules focus on development of conceptual approaches for interpreting modeling results, and developing databases centered around existing observational networks so as to provide a basis for testing eventual production simulations. In this application we ask for resources at DKRZ for the HD(CP)²-Projects M1 (Model development) and M2 (benchmarking simulations). These projects are central to the development of the eventual HD(CP)² model, and key to the work of many other members of the HD(CP)² community. For instance data arising from the benchmark simulations will be used by project partners to develop ideas related to parameterization, to run offline tests of eventual online diagnostic packages to be integrated into the HD(CP)2 model, and to test ideas related to model evaluation.