Project:	**HD(CP)^2-II S5 (Cloud and Convective Organization)**
Allocation period:	**1.1.2016 - 31.12.2016**
Project lead:	**Dr. Rieke Heinze (MPI-M),** Project scientist in HD(CP)^2-II project S5

1 Project overview

HD(CP)^2 – *High definition clouds and precipitation for advancing climate prediction* is a framework project funded by BMBF. The general target of the project is to advance the understanding of cloud formation and precipitation processes using a very high-resolution model based on the dynamical core of ICON, integrated for short time periods (days) over relatively large domains. The whole project is conceptualized as having three phases: the first phase focused on the development and optimization of the model code and officially ended in September 2015. As a result of phase I, simulations were started on Mistral that allowed for the first time ever to simulate Germany on a high-resolved grid of 150 m for distinct days. For phase II, which will officially start in April 2016, an externally reviewed proposal has been submitted to BMBF which includes an outline of the planned simulations and scientific justifications.

Ressources at DKRZ are requested for the project S5 of phase II which is about cloud and convective organization. Although convective organization can be observed on a range of scales, from the smaller to the larger ones, global climate models do not include a representation of subgrid-scale organization. This raises two related questions: i) does an explicit representation of organization contribute to break the cloud and precipitation deadlock and ii) is organization actually important for climate. The project S5 will tackle these two questions by combining radar, satellite and model simulations performed at various resolutions using ICON.