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Outcome of the fourth Cloud Retrieval Evaluation Workshop

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Accurate measurements of global distributions of cloud parameters and their diurnal, seasonal, and inter-annual variations are needed to improve the understanding of the role of clouds in the weather and climate system, and to monitor their time-space variations. Cloud parameters retrieved from satellite observations, such as cloud vertical placement, cloud water path and cloud particle size, play an important role. In order to give weather and climate researchers more confidence in the quality of these retrievals their validity needs to be determined and their error characteristics need to be quantified. The purpose of the 4th Cloud Retrieval Evaluation Workshop (CREW-4), which was held from 3-7 March 2014 in Grainau, Germany, is to enhance our knowledge on state-of-art cloud properties retrievals from passive imaging satellites, and pave the path towards optimising these retrievals for weather and climate applications, such as data assimilation, model analysis, or climate monitoring.

An important objective of CREW is to identify and address research questions on level-2 cloud parameter retrievals from operational algorithms and level-3 aggregation methods. To facilitate the above, the workshop participants presented and discussed inter-comparison and validation results of cloud parameter products from different passive sensors (e.g. SEVIRI, MODIS, AVHRR) and/or different operational algorithms (e.g. MODIS, CM-SAF, CIMSS). In addition, recommendations were made to foster commonality for the operational algorithms and their cloud parameter products among the participating operational and research groups, and to develop international partnerships within the Global Energy and Water Cycle Experiment (GEWEX) and the Coordination Group for Meteorological Satellites (CGMS). In parallel breakout sessions in depth discussions were held on: i) cloud parameter retrieval methods, ii) cloud parameter retrieval evaluations, iii) cloud parameter utilization for severe weather and climate monitoring applications, and iv) steps towards more commonality between the participating groups and setting up international partnerships. In our presentation we will summarize the outcome of the inter-comparison and validation work done in the framework of CREW, and present the decisions and recommendations made in the breakout sessions.