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Status and Update of the International Precipitation Working Group

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A wide range of climate modeling, data assimilation, nowcasting, and hydrological applications requires satellite-based daily and sub-daily precipitation analyses along with their associated uncertainties. The International Precipitation Working Group (IPWG) was initiated as a permanent Working Group of the Coordination Group for Meteorological Satellites (CGMS) to provide a focus in the scientific community on operational and research satellite-based quantitative precipitation analysis issues and challenges. The primary challenge is to build on existing precipitation products that utilize blended active and passive microwave sensors and geostationary-based imagers to provide analyses of the precipitation field across a variety of spatial and temporal scales in near real time. As part of this effort, IPWG has organized significant ground validation for these products over Australia, the United States, Western Europe, Japan and South America using gauge network and radar data.

The 5th Workshop of the IPWG (IPWG-5) was held 11-15 October 2010 at the KlimaCampus, University of Hamburg, and the Max Planck Institute for Meteorology, Hamburg, Germany, attended by about 85 scientists from 25 countries. The workshop covered international projects and satellite programs, IPWG programmatic activities, algorithms, applications, validation, modeling, and new technology. A Hydrology and Precipitation Training Workshop was arranged with EUMETSAT to coincide with IPWG-5.

In this paper we will discuss the dominant themes at IPWG-5, including the long-term availability of precipitation-relevant satellite data, radiometric cross-calibration, and reprocessing of full data archives as new algorithms are put into operation. Particular attention was given to the concept and status of Climate Data Records for precipitation data and to current efforts to improve the calibration of precipitation-related Special Sensor Microwave Imager/Sounder (SSMIS) data. Algorithm development is focused on situations considered “difficult” – falling snow, snowy/frozen surfaces, complex terrain, and cloud development between satellite snapshots. Validation is considered key element to make progress in improving precipitation products. In this regard, an intercomparison campaign is being considered that will focus on validation for observational and model-based products. The IPWG web site provides further details (http://www.isac.cnr.it/∼ipwg/).