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CM SAF Data & Tools for Climate Services

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In recent decades, climate variability and change have caused impacts on natural and human systems on all continents. Observations are needed to understand and document these interactions of the climate system. They are increasingly based on remote sensing from satellites which offer global scale and continuous coverage. Only long term and consistent observations of the earth system allow us to quantify impacts of climate variability and change on the natural and human dimension. From this understanding one can estimate and eventually predict future states of the earth system and quantify its vulnerability and resilience to continuing anthropogenic forcing. In addition, these observations can be used in the evaluation and assessment of reanalysis data records and climate models.

CM SAF was established in 1999 as part of the EUMETSAT Satellite application facility (SAF) network with a dedicated focus on climate. Since 2012 CM SAF is operationally delivering high-quality satellite based Climate data records (CDR) for climate monitoring and model evaluation. All CM SAF data records undergo a rigorous technical and scientific external review process, still being flexible enough to incorporate latest developments.

The Satellite Application Facility on Climate Monitoring (CM SAF) develops, generates, archives and distributes high-quality satellite-derived products of the global energy & water cycle and related sustained services in support to understand and monitor the climate system.

This presentation will provide an overview about:
- the variety of Climate Data Records (CDR) of CM SAF
- the characteristics of the Meteosat-based radiation dataset SARAH-2.1 and its prompt exploration
- an application example for climate monitoring
- auxiliary tools for CM SAF NetCDF Data