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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 data 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. These observations can also be used in the evaluation and assessment of reanalysis data records and climate models.
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 and tools in order to understand and monitor the state of the climate system and its variability.

This presentation will provide an overview about the concept of climate data records (CDR) in combination with consistent 'near-realtime' data - so-called Interim Climate Data Records (ICDR). This data concept is exemplary explored for the parameter sunshine duration as part of the METOESAT-based SARAH-2.1 CDR and its corresponding ICDR to analyze the recent sunshine duration anomaly 2018 in Europe and to rank its extremeness. Further the CM SAF R Toolbox, a free 'R'-based tool with graphical user interface will be introduced. The CM SAF R Toolbox allows to process and to visualize CM SAF NetCDF data. The CM SAF R Toolbox is constantly further developed to make CM SAF data usage as easy and functional as possible.