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EUMETSAT Climate Monitoring SAF: Providing high quality Climate Data Records for GCOS ECV's

Jörg Trentmann and the CM SAF Team
Deutscher Wetterdienst (DWD), Offenbach, Germany (joerg.trentmann@dwd.de)

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.

Since about 18 years, the EUMETSAT Satellite Application Facility on Climate Monitoring (CM SAF, www.cmsaf.eu) develops capabilities for a sustained generation and provision of Climate Data Records (CDRs) derived from operational meteorological satellites, which is continued in CDOP 3 (2017 – 2022). The ultimate aim is to make the resulting data records suitable for the analysis of climate variability and the detection of climate trends. The product portfolio of the CM SAF comprises long time series of Essential Climate Variables (ECVs)related to the energy & water cycle as defined by Global Climate Observing System (GCOS).

Several data records have been released to the public by CM SAF during the last years being used for many applications. In CDOP-3 (running from 2017 to 2022) new editions of climate data records (CDR) will be published extending the time-range and the portfolio. In particular, new products related to the following topics will be developed and provided during CDOP 3 global precipitation (ocean and land), regional land fluxes (Meteosat domain), global high clouds. This poster will highlight results from the currently available CDRs and will present an overview of the upcoming new editions of CDRs.