

Release of CM SAF Top of Atmosphere Radiation MVIRI/SEVIRI data record

The CM SAF Top of Atmosphere Radiation MVIRI/SEVIRI Data Record provides a homogeneous satellite-based climatology of the TOA Reflected Solar (TRS) and Emitted Thermal (TET) radiation in all-sky conditions. The continuous monitoring of these components of the Earth Radiation Budget is of prime importance to study climate variability and change. The MVIRI and SEVIRI instruments on board the METEOSAT First and Second Generation satellites are combined to generate a long Thematic Climate Data Record covering a period of time of 32 years, from 1 February 1983 to 30 April 2015. The TOA radiation products are provided as daily mean, monthly mean and monthly averages of the hourly integrated values (diurnal cycle). The data is provided on a regular grid at a spatial resolution of $0.05^{\circ} \times 0.05^{\circ}$ and covers the region between $\pm 70^{\circ}$ longitude and $\pm 70^{\circ}$ latitude. In addition to covering a long time period, the MVIRI/SEVIRI data record is also featured by excellent spatial and temporal samplings.

The data record can be ordered via the [Web User Interface](#). More information on the data record is available from the DOI page:

http://dx.doi.org/10.5676/EUM_SAF_CM/TOA_MET/V001

Release of new FCDR of Microwave Imager Radiances (Oct 1978 – Dec 2015)

The CM SAF FCDR of Microwave Imager Radiances comprises inter-calibrated brightness temperatures (BTRs) from the SMMR, SSM/I and SSMIS radiometers. It covers the time period from October 1978 to December 2015 including all available data from the SMMR radiometer aboard Nimbus-7, the SSM/I radiometers aboard F08, F10, F11, F13, F14, and F15 and the SSMIS radiometers aboard F16, F17, and F18. It provides homogenised and inter-calibrated BTRs in a user friendly data format. SMMR, SSM/I and SSMIS data are used for a variety of applications, such as analyses of the hydrological cycle and remote sensing of sea ice. The improved homogenization and inter-calibration procedure ensures the long term stability of the FCDR for climate related applications. All available raw data records have been reprocessed to a common standard, starting with the calibration of the raw Earth counts, to ensure a completely homogenized data record. The data processing accounts for several known issues with the instruments and corrects calibration anomalies due to along-scan inhomogeneity, moonlight intrusions, sunlight intrusions, and emissive reflector. Corrections for SMMR are limited because the SMMR raw data records were not available. Furthermore, the inter-calibration model incorporates a scene dependent inter-satellite bias correction and a non-linearity correction to the instrument calibration. The data files contain all available original sensor data (SMMR: Pathfinder Level 1b) and metadata to provide a completely traceable climate data record. Inter-calibration and Earth incidence angle normalization offsets are available as additional layers within the data files in order to keep this information transparent to the users. The data record is complemented with radiometer sensitivities, quality flags, surface types, and Earth incidence angles.

The data record can be ordered via the [Web User Interface](#). More information on the data record is available from the DOI page:

http://dx.doi.org/10.5676/EUM_SAF_CM/FCDR_MWI/V003

Reminder: Change in CM SAF product portfolio from March 2017 onwards

As already announced in [Newsletter 25](#) the CM SAF product portfolio will change with the start of the CDOP-3 project phase in March 2017. The new project phase brings some changes and new challenges, while CM SAF will continue to develop and deliver improved Climate Data Records (CDRs) of Essential Climate Variables (ECV) related to the energy and water cycle. The development and provision of new products also mean that a few currently available parameters will have to be discontinued. With the start of the CDOP-3 in March 2017 the generation of the ATOVS-based EDR products HTW, HLW and HSH as well as the GERB/SEVIRI-based parameters TRS and TET will be terminated. We apologize for any inconvenience this may cause!

Operations Report for July-December 2016 available

The [2nd Operations Report 2016](#) covering the reporting period July to December 2016 is available on our webpage. The purpose of the Operations Report is to outline the operations activities within the CM SAF and to provide a summary of operational activities during the reporting period. Furthermore, a summary of User Help Desk (UHD) activities and user statistics is given. An [archive](#) of previous reports can be found on our webpage as well.

Publications by CM SAF team

The following list gives an overview of some recently published papers by the CM SAF team covering CM SAF products and developments. Authors from the current CM SAF team are marked in bold.

G. Alexandri, A.K. Georgoulas, C. Meleti, D. Balis, K.A. Kourtidis, A. Sanchez-Lorenzo, **J. Trentmann**, P. Zanis, 2017: A high resolution satellite view of surface solar radiation over the climatically sensitive region of Eastern Mediterranean, Atmospheric Research, [doi: 10.1016/j.atmosres.2016.12.015](#).

A. Sanchez-Lorenzo, A. Enriquez-Alonso, M. Wild, **J. Trentmann**, S. M. Vicente-Serrano, A. Sanchez-Romero, R. Posselt, M. Z. Hakuba, 2017: Trends in downward surface solar radiation from satellites and ground observations over Europe during 1983–2010, Remote Sensing of Environment, Vol. 189, 108-117, [10.1016/j.rse.2016.11.018](#).

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