

CM SAF Newsletter 25

October 2016

The EUMETSAT
Network of
Satellite Application
Facilities



Availability of new CM SAF TCDR: CM SAF CLOUD property dAtAset using SEVIRI (CLAAS-2)

The [CLAAS-2](#) record provides cloud properties derived from the SEVIRI sensor onboard METEOSAT second generation (MSG) satellites.

The data records can be ordered via the [Web User Interface](#). More information on the dataset is available from the DOI page http://dx.doi.org/10.5676/EUM_SAF_CM/CLAAS/V002

The table below gives an overview of the available parameters:

Product identifier	Acronym	Product title
CM-21011	CFC/CMA	Cloud Fractional Cover (or Cloud Amount for level 2)
CM-21031	CTO	Cloud Top information, expressed either as Cloud Top Pressure, Cloud Top Height or Cloud Top Temperature
CM-21041	CPH	Cloud thermodynamic Phase
CM-21051	LWP	Liquid Water Path
	<i>COT</i>	Liquid Cloud Optical Thickness
	<i>REFF</i>	Liquid Cloud particle effective radius
CM-21061	IWP	Ice Water Path
	<i>COT</i>	Ice Cloud Optical Thickness
	<i>REFF</i>	Ice Cloud particle effective radius
CM-21021	JCH	Joint Cloud property Histogram, based on CPH, CTP, and COT

Parameters in *italics* are available as data layers in respective product

This second edition is the improved and extended follow-up of the first version of the record ([Stengel et al., 2014](#); CLAAS-1 DOI: [10.5676/EUM_SAF_CM/CLAAS/V001](http://dx.doi.org/10.5676/EUM_SAF_CM/CLAAS/V001)). In order to ensure a homogeneous data basis, the solar SEVIRI channels of MSG-1, MSG-2 and MSG-3 were inter-calibrated (Meirink et al, 2013) with MODIS Aqua before applying the cloud retrievals. CLAAS-2 features 12 years (2004-2015) of cloud mask/type cloud top temperature/pressure/height, cloud phase as well as cloud microphysical properties such as optical thickness, effective droplet radius and cloud water path. The data are available on native SEVIRI resolution, i.e. 15 minutes repeat cycle and 3km (nadir) to 11km (edge of the field of view) spatial resolution. In

addition, spatio-temporal averages of the above mentioned cloud properties are included: Daily and monthly averages and monthly histograms on a 0.05° x 0.05° grid as well as monthly mean diurnal cycles on a 0.25° x 0.25° grid.

The advancements compared to CLAAS-1 are for example:

- (1) extended MSG measurement record used with better calibration,
- (2) improvements made to the retrieval algorithm leading to products with higher quality and
- (3) increased temporal resolution (15 Minutes).

Along with the data, a comprehensive documentation including user guide, algorithm descriptions, reprocessing layout and extensive validation studies is provided. With CLAAS-2, regional and large scale cloud processes at temporal scales of minutes to years can be studied. A publication on the CLAAS-2 characteristics and a detailed evaluation of the results will be available soon. SEVIRI-based surface radiation products, which were part of CLAAS-1, will now be released in a separate dataset (SARAH-2) soon.

Changes in SEVIRI-based routinely provided EDR products

CM SAF will change the processing of the currently available SEVIRI-based EDR products (cloud fraction, cloud top products, surface incoming shortwave and surface incoming direct radiation) with the beginning of 2017 in order to be more consistent with the corresponding TCDRs ([CLAAS v2](#) for cloud products and SARAH v2 (available soon) for the surface radiation products). With this change, our environmental data records (EDRs) will become so-called “Interim Climate Data Records” (ICDRs). The underlying algorithm will be identical with the algorithms used in the generation of the corresponding TCDRs, thus it can be seen as a continuous extension of the TCDRs. The main difference will be in the calibration of the satellite data, which cannot be as thorough as for the TCDRs because of the timeliness constraints. Additionally, the used background NWP data will change to using forecast data instead of reanalysis data. The output format as well as the spatial resolution and projection of the ICDRs will be the same as for the TCDRs. The list below gives a summary of the main changes compared to the currently available EDR parameters:

- Change in algorithm using the identical algorithms as in the corresponding TCDRs (SARAH-2 and CLAAS-2)
- Change from hdf5-format to netcdf-format as standard output format
- Identical spatial resolution and projection as TCDR (lat/lon grid instead of sinusoidal projection)
- Improved timeliness requirement (5 days instead of 2 months)

In order to help users to change their applications to the new formats, test data will be made available to the users within the next few weeks. We will inform the users via a service message and newsletter.

Stop of processing of ATOVS and GERB/SEVIRI based EDR products with start of CDOP-3 in March 2017

The 3rd Continuous Development and Operations phase (CDOP-3) of the Satellite Application Facility on Climate Monitoring has been approved by EUMETSAT Council in summer 2016. Please also see the “Highlights” section on the [CM SAF webpage](#) to get a first impression on the upcoming developments. 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!

Change in order handling for large orders

Several Climate Data Records have been released during the last years and more long data records will be released in the near future. As a result individual orders are becoming much larger on average. This has two consequences: The download time of large orders is quite high for our users and users might not be able to download their complete order within the given time frame of 14 days. Additionally, together with the much appreciated increase in registered users and number of orders, the load on the CM SAF ftp server becomes quite high from time to time. This might lead to longer waiting times until an order can be processed. As a consequence, the order handling for orders larger than 1 TB has been changed. While smaller orders are automatically processed as before, orders larger than 1 TB will be set on hold until the user has been contacted by the CM SAF User Help Desk to clarify the way forward for the specific order request. For more details on possible solutions please check the CM SAF [Frequently Asked Questions](#). We apologize for any inconvenience this may cause.

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