CM SAF Newsletter 32
October 2017

Release of CM SAF TOA Radiation GERB/SEVIRI Data Record - Edition 2

The TOA Radiation GERB/SEVIRI record from CM SAF provides estimates of the Top Of Atmosphere broadband radiative fluxes derived from the Geostationary Earth Radiation Budget (GERB) and the Spinning Enhance Visible and InfraRed Imager (SEVIRI) sensors onboard the Meteosat Second Generation satellites. The outgoing radiation is reported in terms of TOA Reflected Solar (TRS) and TOA Emitted Thermal (TET) fluxes. This second edition is the improved and extended follow-up of the first edition of the record available from CM SAF under DOI 10.5676/EUM_SAF_CM/TOA_GERB/V001.

The main improvements are:

1. In addition to the all sky fluxes, the edition 2.0 also provides an estimate of the corresponding clear sky fluxes.
2. A correction is applied for the GERB and SEVIRI sensor ageing.
3. Data from the MSG1, MSG2 and MSG3 satellites have been homogenized.
4. Data from the backup MSG satellite has been used to reduce the gaps in the data record.
5. The temporal coverage is extended to 1st Feb. 2004 - 30th April 2015.

The original GERB level 2.0 High Resolution (HR) and SEVIRI level 1.5 observations have been processed to estimate solar and thermal fluxes in hourly boxes on the GERB HR grid. From the hourly values, the daily mean, the monthly mean and the monthly mean diurnal cycle are estimated. Finally, the data is regridded on a regular latitude-longitude grid covering 70°N - 70° and 70°W-70°E, with a spatial resolution of 0.1°.

Release of Hamburg Ocean Atmosphere Parameters and Fluxes from Satellite Data - HOAPS 4.0 by CM SAF

The Hamburg Ocean Atmosphere Parameters and Fluxes from Satellite data record (HOAPS) is a completely satellite based climatology of precipitation, evaporation and freshwater budget (evaporation minus precipitation) as well as of latent heat flux, total column water vapour, near surface specific humidity and near surface wind speed over the global ice free oceans. All variables are derived from recalibrated and intercalibrated measurements from SSM/I and SSMIS passive microwave radiometers, except for the SST, which is taken from AVHRR measurements. The data record includes multi-satellite averages and an efficient sea ice detection procedure. Main changes in this version are a prolonged time series, now containing data for the time period from July 1987 until December 2014, the utilisation of an updated SSM/I and SSMIS FCDR, the provision of uncertainty estimates for latent heat flux, evaporation, near surface specific humidity and near surface wind speed and the implementation of a 1D-Var retrieval scheme for the retrieval of total column water vapour and near surface wind speed. Other retrieval algorithms remain

unchanged compared to HOAPS 3.2. All HOAPS products have global coverage, i.e., within ±180° longitude and ±80° latitude and are only defined over the ice-free ocean surface. The products are available as monthly averages and 6-hourly composites on a regular latitude/longitude grid with a spatial resolution of 0.5° x 0.5° degrees. Along with the data and the uncertainty estimates, a comprehensive documentation including user manual, algorithm descriptions, reprocessing layout and extensive validation studies, are provided.

The data record can be ordered via the Web User Interface. More information on the data record is available from the DOI page: 10.5676/EUM_SAF_CM/HOAPS/V002

CM SAF presentations at upcoming conferences

Presentations on CM SAF topics will be given at a number of upcoming conferences presenting the latest results of our work, among others:

- 29 Nov – 5 Dec 2017, International TOVS Study Conference XXI (ITSC-XXI), Darmstadt, Germany

==========