

The CM-SAF surface radiation

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The surface radiation budget is an important key parameter for the monitoring of climate change and dynamics.

The CM-SAF algorithms to derive the surface radiation budget have especially been developed to exploit the capabilities of NOAA and the the new generation of Meteosat satellites. Especially the retrieved MSG based radiation products, are characterised by a high accuracy and a high space-time resolution in consequence thereof. The large geographical coverage of satellite based climate data records overcomes the problem of ground based data, providing accurate data only at specific points in space.

The presentation gives an brief overview about the CM-SAF products and validation results, including inter-comparison with ISCCP (International Satellite Cloud Climatology Project) and GEWEX (Global Energy and Water Vapour Experiment) climate data records. The main focus of the presentation will be the discussion of climate applications, especially the monitoring of anomaly patterns. The use of the global irradiance product for solar energy applications will be discussed as well. Solar energy helps to reduce the CO₂ emissions. Hence, this application demonstrates that CM-SAF radiation data is not only valuable for climate monitoring and research but also for active reduction of greenhouse gases concentration in the atmosphere.