



Cloud optical thickness comparisons using MSG-SEVIRI and ground-based irradiance measurements

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The Satellite Application Facility on Climate Monitoring (CM-SAF) generates, archives and distributes on an operational basis satellite-derived products and services relevant for climate monitoring. One of the key instruments within the CM-SAF is the Meteosat Second Generation (MSG) SEVIRI imaging radiometer. This instrument provides images of the earth every 15 minutes at 2 visible, 2 near infrared and 8 infrared channels with a spatial resolution of 3 km and one visible channel with a spatial resolution of 1 km sub satellite. KNMI developed and implemented an algorithm for simultaneous retrieval of cloud optical thickness and particle size from MSG-SEVIRI using the 0.6 and 1.6 μm channels. This presentation deals with a comparison between SEVIRI-derived cloud optical thickness and estimates of the same quantity derived from ground-based irradiance measurements made at the candidate Baseline Surface Radiation Network (BSRN) station in Cabauw, the Netherlands. The analysis is made for completely overcast situations only, for the period April-June 2004. The satellite-derived and ground-based values of cloud optical thickness are generally positively correlated but the ground-based values seem to be underestimated by the satellite-derived values. Possible explanations are presented on the basis of an error analysis.