



Evaluation of longterm stability of geostationary land surface albedo data for climate research

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Land surface albedo is a major parameter, controlling the land surface energy budget. An appropriate parameterization of climate models using high quality land surface albedo data sets is therefore important for an accurate simulation of the surface radiation budget in global circulation models (GCM). The temporal and spatial dynamics of land surface albedo and an appropriate characterization of its relationship to vegetation dynamics is hereby important. Temporal albedo changes may hereby range from seasonal changes to longterm decadal changes which are e.g. related to regional droughts. It has been shown that albedo changes can result in regional feedback mechanisms between the land surface and atmosphere and might result in e.g. changes in regional precipitation patterns.

An exploitation of historical archives of existing satellite data might therefore be very valuable to identify characteristic surface albedo dynamics and its relationship to vegetation dynamics on the one hand side and more specifically to identify hot spot regions with large albedo changes throughout the last decades.

Recently, EUMETSAT released a longterm (> 20 years) land surface albedo dataset with high temporal and spatial resolution which was based on Meteosat geostationary data. The present paper provides a thorough analysis of the longterm stability of the data set and characteristic land surface albedo dynamics. An outlook for the applicability of the new data set for climate research will be given.