



Low stratus climatology from geostationary satellite data

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Fog and low stratus situations impact traffic safety and air quality; their distribution and frequency impacts radiation transfer in the climate system. This study uses geostationary satellite data (Meteosat Second Generation SEVIRI) to detect low stratus and fog, and to produce climatological maps on this basis.

The satellite technique is based on a sequence of spectral and spatial analyses and validated against METAR observations. Averaged maps covering several winter seasons of data are analysed and compared to a cloud climatology based on a 26-year record of ground-based visual cloud observations. Maps are presented for the relative frequency of low stratus situations as well as for the number of hours with fog/low stratus, making use of the very high temporal resolution available from a geostationary platform. The spatial patterns found in both products are found to be in good agreement and plausible.