Geophysical Research Abstracts
Vol. 14, EGU2012-11971, 2012
EGU General Assembly 2012

Comparison of OMI and ground measured UV Index of Norwegian UV monitoring stations

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We will present results of a comparison study of satellite UV Index obtained from Ozone Monitoring Instrument (OMI) with ground UV monitoring sites in Norway from August 2004 to December 2009. The comparison is based on the coincident measurement data of OMI and ground instrument at the satellite overpass time in order to minimize effects due to temporal variability of cloud morphology, absorbing aerosols, ozone and solar zenith angle. The coincident data are further categorized into different sky and ground conditions using Lambert Equivalent Reflectivity (LER) and surface albedo as proxies, and four conditions: cloud free and snow free, cloud free but with snow, cloudy but snow free, and cloudy and snowy, are observed at the most of the stations. For cloud free and snow free cases, the OMI estimated UV index was between 9 and 20% higher than the ground based UV index. Under cloud free but with snowy conditions, the overestimation increased up to 27%, and under cloudy with no snow conditions, the overestimation increased further to 43%. With cloudy and snowy conditions, there is a wide spread with both underestimation and overestimation. These results, as well as the effects of other atmospheric factors on the comparison, will be presented.