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[715] Satellite based UV maps for the Alps

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Based on measurements from the Meteosat geostationary satellites we model the surface UV radiation in the Alps. Clear sky UV radiation depends on the solar elevation, ozone and aerosols, and, specifically relevant for the alpine regions, altitude and surface albedo. Using a radiative transfer model, measurements of visible to infrared wavelengths are used to gauge the change in surface UV radiation due to clouds. With this algorithm, we produce a near-real time surface UV and albedo map for the Alps at a 0.05° resolution. We compare our results with measurements from the Austrian UV network and partner institutions (19 stations), with a specific focus on the challenging influence of albedo.

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