



## **Winter UV climatology and its deviation from satellite derived UV levels in Kathmandu, Nepal**

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UV climatology of Kathmandu, Nepal (27.7°N) was established for the period from November 2004 to March 2005 with ground based multi-channel broadband instrument and sun-photometer. Analysis of data shows clear sky noon time one hour average UV index can reach as high as 8 in winter period. UV index larger than 8 appears for solar zenith angle (SZA) below 40° in a cloud free condition. Special local conditions provides afternoon UV dose to be higher than that in morning which is attributed to the presence of thick layer of fog up to 10 am local time especially in winter. Comparison of UV index from ground based measurements and that derived from TOMS (version 8) shows satellite usually overestimates one hour averaged UV index by approximately 30%. Aerosol optical depth measurement using sun photometer over the same period of time shows higher values of aerosols in the morning. Estimated higher summer UV index, when SZA can reach 4°, shows urgent need for taking precautions to avoid the harmful effect of UV.