



Implementation of a UV forecasting system for Basque Country area

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In the Basque Meteorological Agency (EUSKALMET) an ultraviolet index (UVI) forecast system has been designed and implemented to generate UVI forecasts in diurnal-basis. The predicted UVI indicates the amount of ultraviolet radiation that will reach the Earth's surface, high levels of ultraviolet radiation can generate health problems such as skin cancer.

These UVI forecasts consist on time series evolutions for D, D+1 ad D+2 for selected locations and horizontal distributions of UV indexes in the area of interest every 2 hours. The information of UV indexes is supplied to the public by means of the EUSKALMET web page. The results include the effects of cloud cover, estimated from the results of a numerical weather prediction system implemented for mesoscale forecast purpose in the Basque Country area and also consider ozone forecasted data.

The system is based on the FASTRT program, developed in the Norwegian institute for air research, computes downward surface irradiances in the spectral range 290-400nm as a function of important radiative parameters such as solar zenith angle, ozone, cloud and aerosol optical thicknesses, surface reflectance and cloud cover.

In this work a full description of system design and implementation is made, we also present some verification aspects related with the behaviour of the UVI forecast system comparing the predicted data with measured surface data.