

Simulation of top-of-the-atmosphere visible reflectances

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The generation of near-real-time simulated satellite images has been further developed in the operational ECMWF's Integrated Forecasting System (IFS) Cycle 48r1 to include visible simulated images in addition to the existing infrared images. Following progress in the radiative transfer modelling for visible wavelengths, reflectances that would be seen in a visible channel (635 nm and 810 nm of SEVIRI on Meteosat-10, for example) are now computed during the model run from every grid point of the forecast model and available within the standard delivery times of all other ECMWF data and products. This presentation describes the assumptions and the methodology used in this development, highlighting the potential scientific and operational values of realistic satellite imagery products based on high-resolution Numerical Weather Prediction (NWP) output.

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