



Exploring radiative feedbacks in ECMWF's forecasting model with integrated chemistry schemes

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ECMWF's integrated forecasting system (IFS) has been extended to include modules for tropospheric chemistry and aerosol and most recently modules for stratospheric chemistry in the course of the MACC I - III projects. Composition IFS (C-IFS) is used operationally for forecast and data assimilation of global atmospheric composition in preparation of the Copernicus Atmosphere Monitoring Service (CAMS).

While the main focus in CAMS is on atmospheric composition, interaction between radiation and atmospheric composition can now be explored with C-IFS. IFS often uses climatologies for absorbing trace species in the radiation scheme, which could be replaced by the prognostic concentrations fields simulated by C-IFS. We will present two examples (tropospheric photolysis rates and stratospheric temperatures) of these interaction and discuss benefits and issues in our talk.