



## **Stratospheric ozone parameterisation for seamless prediction systems**

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A new stratospheric ozone parameterisation has been implemented in the ECMWF system and tested for time scales that spread from medium-range to decadal. The new ozone parameterisation was developed to provide a consistent treatment of both gas-phase and heterogeneous chemistry, therefore offering a more realistic link with temperature than the default ozone scheme used so far by ECMWF.

The stratospheric ozone distribution provided by the newly implemented parameterisation compares very well to observations and full-chemistry models, even for unusual meteorological conditions such as polar vortex split events. To assess the impact on, and feedbacks with, meteorological variables, experiments have been performed with prognostic ozone interactive with radiation.

Our results show that the new scheme provides a realistic ozone field able to improve the description of the stratosphere in the ECMWF system; it has a positive impact on the ECMWF model temperature field, reducing biases in the stratosphere. This study also evaluates effects of the new scheme on forecast and predictability scores, we will show some examples in which positive impacts on forecast scores also reach levels in the lower troposphere.