



## **Sub-seasonal prediction of aerosols fields and impact on meteorology using the ECMWF's coupled Ensemble Prediction System**

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Recent years have seen the rise of global operational atmospheric composition models for several applications including climate monitoring, provision of boundary conditions for regional air quality forecasting, and energy sector applications, to mention a few. Typically global forecasts are provided in the medium-range up to five days ahead. In this work we investigate the feasibility of sub-seasonal to seasonal prediction of aerosols using the ECMWF's coupled Ensemble Prediction System. The motivation of this study is to investigate the impact of the aerosol direct effect on meteorological variables such as winds, temperature and precipitation. A comparison between a run with fully prognostic and interactive aerosols and a control run using the current operational set-up which includes an up-to-date aerosol climatology will be presented.

Aerosol forecast fields at the weekly/monthly scales will also be presented and compared with corresponding analysis to assess their quality. Moreover, an analysis of the anomalous wild fires season of 2015 in Indonesia will also be presented from the point of view of the radiative impacts of the biomass burning aerosols on the regional meteorology.