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An intercomparison and evaluation of chemistry transport models

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GEMS (Global and regional Earth-system Monitoring using Satellite and in-situ data) is European project which aims to create a new operational system for operational global monitoring of atmospheric chemistry and dynamics and an operational system to produce improved medium-range and short range air chemistry forecasts. GEMS is organized in five different sub-projects: global reactive gases, greenhouse gases, global aerosol, regional air quality, global production forecast/assimilation system. Within the sub project on global reactive gases three chemical transport models (CTMs) (MOZART-3, TM5, and MOCAGE) are coupled to the integrated forecasting system (IFS) at the ECMWF. CTMs provide concentration tendency information to IFS and get meteorological input from IFS. To evaluate simulations of this system available surface and in-situ datasets are used. Three episodes in 2003 have been defined. We propose to present results of the evaluation of capability of CTMs to simulate the long-range transport and transformation of air pollutants during the episode of boreal Siberian fires.