



THE GEMS project (2005-2009) and the MACC proposal (2009-2011)

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The FP6 GEMS Project (GEMS: Global and regional Earth-system Monitoring using Satellite and in-situ data) is extending the capabilities of numerical weather prediction in global operational modelling and data assimilation of atmospheric dynamics and thermodynamics, to encompass also global operational modelling and data assimilation of atmospheric composition. The project addresses a suite of greenhouse gases (carbon dioxide and methane initially), and reactive gases (ozone, NO_x, SO₂, CO, formaldehyde) and aerosols (mineral dust, marine aerosol, black carbon...). In addition, GEMS is building a new capability in European-level air quality data-assimilation and multi-model ensemble forecasting. The presentation will present recent results from the different strands of the GEMS project, and will describe the steps needed to make the GEMS system ready for daily real-time running in early 2009.

The EU's initiative in Global Monitoring for Environment and Security (GMES) has called for proposals for a pilot GMES Atmospheric Service. In response to the call the GEMS consortium and the ESA-funded PROMOTE consortium have jointly submitted a proposal for the pilot GMES Atmospheric Service. The new FP7 proposal (called MACC: Monitoring Atmospheric Composition and Climate) builds on the EU and ESA investments in GEMS & PROMOTE. The presentation will conclude with an outline of the MACC proposal.