

The NMMB/BSC-CTM is included in the multi-model intercomparison initiative of the International Cooperative on Aerosol Prediction (ICAP) project.

The Earth Sciences Department of the Barcelona Supercomputing Center is developing a new integrated meteorological - air quality modelling system, the *NMMB/BSC Chemical Transport Model* (NMMB/BSC-CTM). The system incorporates the state-of-the-art on aerosol modules accounting for the relevant global aerosols, and a tropospheric gas-phase photochemical mechanism. Meteorology, gas-phase and aerosol processes are on-line coupled in order to incorporate feedback interactions among modules.

The new system has been recently included within the multi-model intercomparison initiative of the *International Cooperative on Aerosol Prediction* (ICAP) project. ICAP is an international collaboration based on common interest in all global aerosol forecasting aspects. Several international institutions are participating in the intercomparison with their own models: European Center for Medium-range Weather Forecast (Europe), Japan Meteorological Agency (Japan), National Aeronautics and Space Administration (USA), Naval Research Laboratory (USA), NOAA National Centers for Environmental Prediction (USA). The BSC participates in the intercomparison of global models with the mineral dust and sea-salt aerosol forecasts produced by the global version of the NMMB/BSC-CTM.

The ICAP multi-model intercomparison web site, maintained by the Naval Research Laboratory (NRL) of the USA Navy (<http://www.nrlmry.navy.mil/aerosol/icap.1087.php>), provides global forecasts of mineral dust, sulfate, smoke and sea salt aerosols for daily simulations of 120-h, and ensemble products from all results. The models involved in the initiative are the MACC, NAAPS, GEOS-5, MASINGAR, NGAC and NMMB/BSC-CTM. ICAP initiative will contribute to improve the next-generation global atmospheric models for the prediction of aerosol concentrations in the atmosphere.

The BSC-CNS is an international reference in forecasting and transport of mineral dust, along with the Spanish Meteorological Agency (AEMET), houses the regional center of the World Meteorological Organization (WMO) Sand and Dust Storms Warning Advisory and Assessment System for North Africa, Middle East and Europe (<http://sds-was.aemet.es/>). It is currently developing a new modeling system NMMB/BSC-CTM provides air quality forecasts with weather forecasting to global or regional.