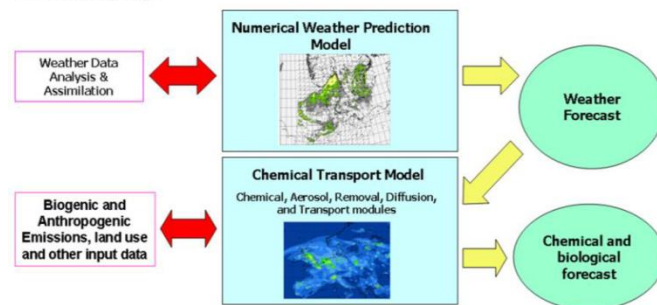


Benefits for the Society

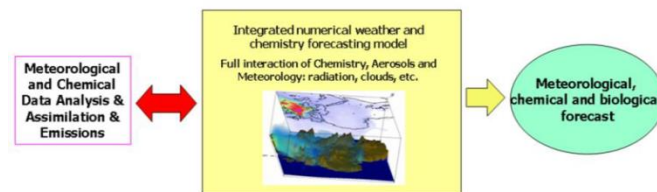
- Improved forecasting of severe weather, forest fires, dust storms, flooding, plume transport, etc;
- Improved prediction of climate change; adaptation and mitigation strategies assessment;
- Cost-effective measures for transport management and energy production;
- Improved management and protection of terrestrial and marine ecosystems;
- Enhanced quality of human life especially in urban areas;
- Decreased redundancy and overlap of national, regional or local activities;
- Distinction of intrinsic impacts of air quality and meteo/climate factors on human health&ecosystems.

The COST ES1004 Action aims to assess benefits, challenges and requirements of online integrated systems of meteorological and chemical transport prediction models based on two-way interactions between different atmospheric processes including chemistry, clouds, radiation, boundary layer, emissions, meteorology and climate.

Off-line coupling:



On-line coupling/integration:



COST is supported by the EU
RTD Framework Programme



ESSEM



COST ES1004 Action

European framework for online
integrated air quality and
meteorology modelling
(EuMetChem)

www.eumetchem.info



Chair of the Action:
Alexander Baklanov, DMI,
Denmark, alb@dm.dk

Target groups/end users

- Research groups working with related issues at national and European level;
- European, national, and regional authorities, responsible for the quality of life of European citizens;
- Meteorological services and environmental research institutes aiming at better predictions of weather, air quality and climate change;
- National and municipal authorities responsible for implementing preventive measures linked to hazardous weather and air quality situations;
- Ministries and Universities handling educational programs in meteorology, climate change and environmental protection;
- ECMWF and EUMetNet in charge of developing and coordinating modelling and monitoring
- The European Commission, the European Environment Agency, WMO, WHO, and others bodies formulating research priorities.

The overall objective of the COST ES1004 Action is to set up a multi-disciplinary forum for online integrated air quality and meteorology modelling and to elaborate an European strategy for a new generation of integrated weather/chemistry/climate modelling capability.

The main topics are:

- Advantages and disadvantages of online vs. offline modelling;
- Development priorities, focused on interaction/feedback mechanisms;
- Chemical data assimilation in integrated models;
- Outlining a European strategy framework for online integrated modelling;
- Evaluation and validation framework for online models;
- Collection of suitable datasets for integrated model development and evaluation.



COST ES1004 participants:

23 European COST countries:
Austria, Bulgaria, Denmark, Estonia,
Finland, France, Germany, Greece,
Hungary, Israel, Italy, Malta,
Netherlands, Norway, Poland,
Portugal, Serbia, Slovenia, Spain,
Sweden, Switzerland, Turkey,
United Kingdom
and
ECMWF, JRC, WMO, USEPA, NOAA

Working groups:

- WG1:** Strategy and framework for online integrated modelling
- WG2:** Interactions, parameterizations, feedback mechanisms;
- WG3:** Chemical data assimilation in integrated models;
- WG4:** Evaluation, validation and applications