# EU project provides state-of-the-art atmosphere monitoring service

May 22 2014


From air quality to solar radiation, information on our atmosphere is of crucial importance to us all. In order to make the right decisions for our current and future quality of life, European decision makers, businesses and citizens need reliable and up-to-date information on exactly what is going on in our atmosphere now and what to expect in the future.

MACC-II (Monitoring Atmospheric Composition and Climate - Interim Implementation), an EU-funded project, combines state-of-the-art atmospheric modelling on global and European scale with Earth observation data to provide high quality environmental information services. It covers European air quality, global atmospheric composition, climate forcing, the ozone layer and UV radiation, and solar energy.

MACC-II is the third in a series of projects funded by the European Commission and the European Space Agency with the aim of establishing the atmospheric service of the European Earth observation programme Copernicus.

The MACC-II project is now in its final few months and the Copernicus Atmosphere monitoring service is in pre-operational mode, providing continuous data and information on atmospheric composition. The service details the current situation, forecasts the situation a few days ahead, and analyses consistently retrospective data records for recent years.

MACC-II combines satellite and in situ observations with advanced numerical models to develop products such as five-day forecasts of global atmospheric composition and four-day forecasts of European air quality.

During the wildfires in south-east Europe in August 2012, for example, MACC-II used a real-time wildfire detection system based on satellite observations to estimate the amount of smoke particles released into the atmosphere. This information was then used in a forecasting model to predict the extent of the smoke plume for the next few days.

MACC-II also provides the solar energy industry, the electricity sector, governments, and renewable energy organisations and institutions with suitable and accurate information of the solar radiation resources at the Earth's surface.

Furthermore, it supports studies of pollution events and possible responses to mitigate their effects, providing annual assessments of air quality, and monitoring greenhouse gases and their sources and sinks at the Earth's surface.

Led by the European Centre for Medium Range Weather Forecasts (ECMWF), the project involves 36 partners from 13 countries. It is thought to be one of the few projects of its kind worldwide.

Users from most countries in the world already access MACC-II products, which are freely available at http://atmosphere.copernicus.eu. MACC-II will run until July 2014, when the operational phase of Copernicus is expected to start.

**More information:** www.gmes-atmosphere.eu/

Provided by CORDIS