1.181 Surface emissions for global and regional atmospheric composition analysis.

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Abstract:

In order to drive atmospheric models performing air quality forecasting and analaysis of the atmospheric composition, an accurate quantification of surface emissions from anthropogenic and natural sources is required. As part of the European Copernicus Atmosphere Service (CAMS), diverse emission datasets are being developed. Global anthropogenic emissions for about ten sectors for a large number of atmospheric compounds, including speciated volatile organic compunds for the 2000-2018 period, are being made available to the community, at a 0.1x0.1 degree resolution. Regional anthropogenic emissions for Europe are also being developed for 2000-2015 at a spatial resolution of about 0.125° x 0.0625°, for twelve sectors. In addition, detailed emissions from ships based on ship identification systems are being developed. Different datasets providing natural emissions are being processed, such as the emissions of biogenic volatile organic compounds from vegetation, nitrogen compounds emissions from soils, emissions from the oceans and emissions from volcanoes. Methodologies for evaluating the emissions and their consistency at different scales are being generated. Temporal profiles, as well as algorithms to take into account the impact of meteorological conditions on emissions are being considered. The
project is also supporting the AMIGO/IGAC project.