

## 5.013 Changes in anthropogenic surface emissions in different world regions during the past decades.

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Abstract:

Information on surface emissions on an accurate, timely and accessible basis is critical for understanding the current composition of the atmosphere, as well as for hindcast and forecast simulations. Different research teams worked over the past years to better quantify surface emissions, and to develop anthropogenic spatial and temporal distributions for different periods and regions. These inventories provide either emissions on a national basis for different countries, or gridded emissions at the global or regional scale.

We will present an evaluation of the most recent emissions datasets providing emissions for the 1960-2013 period, for different gaseous and particulate compounds, i.e. carbon monoxide, nitrogen oxides, volatile organic compounds, sulfur dioxide, ammonia, black and organic carbon, and particulate matter (PM10 and PM2.5).

The quality of the different emission datasets is difficult to assess. The methodology, input data, assumptions and proxies vary strongly in space and time among the inventories. We will discuss the consistency between global and regional inventories, as well as between the different chemical compounds, for 22 world regions. This work will help quantifying the uncertainties on anthropogenic emissions in the different regions.