



Long term air quality measurements: are we ready to speak about “chemical climate” and its change?

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Air quality monitoring networks managed by National and Regional environmental Agencies are currently supplying an operational service which is quite homogeneous in terms of metrological repeatability and environmental representativeness. In some non negligible situations, the time series of measurement collected so far are enough long and homogeneous to highlight trends that can be put in relationship to the changes in emissions due to technological improvements as well as to the changes in meteorological drivers.

In this frame, this contribution is focused on the time series of nitrogen oxides, particulate matter and ozone concentrations in the plane of Friuli Venezia Giulia carried out by the Regional Agency for Environmental Protection.

These time series depict a clear reduction in nitrogen oxides concentrations which mimic the reductions in nitrogen oxides emissions, in particular to those related to road transports.

Ozone concentrations do not highlight a clear trend, in spite of the clear reduction in VOC and NOX emissions. The only evidence which seems to spring out from the data is a reduction of the “peak-to-mean” ratio, as if the efficiency in ozone production might have been damped by the reduction in ozone precursors emissions.

Particulate matter time series, which are shorter than those of other pollutants, do not reveal a clear trend both because the inter-annual variability is dominated by the inter-annual meteorological variability and because there are some evidences of the growth of new emission sources.

In general, it is however believed that the data collected can be used to define the so called “chemical climate” and its change over an area

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