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Variability of PM pollution in the light of emission changes and meteorological variability: a case study for Styria, Austria

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Despite ambitious efforts to abate surface air pollution, the air quality thresholds for PM10 and PM2.5 are regularly exceeded in the state of Styria. PM target levels are most frequently exceeded in industrial regions and urban cores of the forelands preceeding the alps. Besides local emissions, ambient meteorology and particularly stagnation are of special importance for PM pollution. Here we assess local and regional changes in PM pollution following emission reduction measures, while simultaneously considering effects of meteorological variability. We further supplement our observational study with a set of high-resolution chemistry-transport-model (CTM) simulations to assess future changes in the PM burden in Styria.