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★ Abstract title:

Weather Situation and Linked Pollution Transport during EMeRGe-Europe

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The Effect of Megacities on the Transport and Transformation of Pollutants on the Regional to Global Scales (EMeRGe) aircraft campaign over Europe took place in July 2017. It was aimed at improving understanding and prediction of the transport and transformation of pollution plumes from European major population centers. However, also plumes and airstreams originating from other sources were crossed by the High Altitude and Long Range (HALO) research aircraft. This was enabled by making combined use of meteorological forecasts and atmospheric chemistry simulations by the Copernicus Atmosphere Monitoring Service (CAMS) and the Hybrid Single Particle Lagrangian Integrated Trajectory (HYSPLIT) model during the daily flight planning procedure. Besides pollution from major population centers, a number of intense fires in the Mediterranean region emitted considerable amounts of various trace species. Furthermore, Europe was occasionally influenced by long-range transport of biomass burning from North America and Saharan dust as well as stratospheric intrusions. The purpose of this study is to give insight into the general meteorological situation and linked pollution transport as predicted by the models and to compare this to the measurements.