1.208 Effect of Megacities on the Transport and Transformation of Pollutants on the Regional to Global Scales (EMeRGe): an overview of the HALO airborne campaigns in Europe and Asia. .

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Abstract:

EMeRGe (Effect of Megacities on the Transport and Transformation of Pollutants on the Regional to Global Scales, (http://www.iup.uni-bremen.de/emerge/) is a research project coordinated by the Institute of Environmental Physics of the University of Bremen and funded by a variety of national agencies. Its primary objective aims to improve our understanding of the transport and transformation processes of pollution plumes originating from major population centres (MPC). With this purpose, two airborne measurement campaigns were carried out in summer 2017 and spring 2018 for the investigation of selected MPCs in Europe and Asia. The periods of study were selected as times where polluted flows are large in two regions with significantly different pollution

control strategies.
EMeRGe has exploited the long endurance capabilities of the **HALO** aircraft research platform (www.halo.dlr.de) by selecting a payload, which combines in situ and remote sensing instruments measuring O_3 and aerosol precursors, as well as a larger suite of related radical and trace gases, aerosol amount and composition. In combination with tracer releases, the photochemical evolution of selected megacity plumes, the lifetime of the emissions and the transport of the air masses have been investigated by following optimal transects and vertical profiling during ca. 180 HALO flight hours.
The outflows of London, Rome, Po Valley, Paris, Benelux/Ruhr, South France, Madrid and Barcelona were investigated over Europe. The second campaign in March-April 2018 had Bangkok, Manila, Taipei, Seoul, Tokyo, Beijing, Shanghai and Guangzhou as MPC targets over Asia.
In this presentation an overview of preliminary EMeRGe data with special focus on the HALO Asian campaign will be provided.