

COCCON

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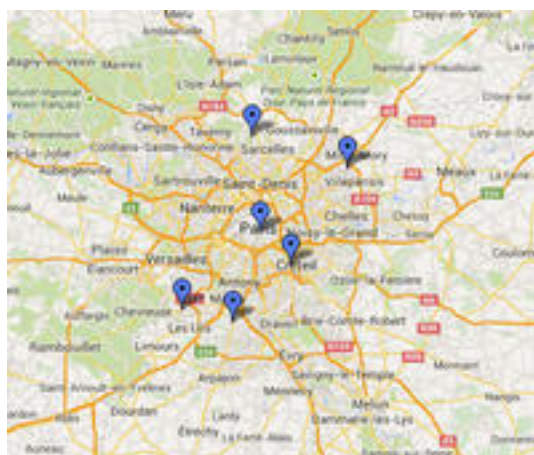
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In the same year as the international community negotiates the next global climate protocol at Paris (COP21), the Karlsruhe Institute of Technology (KIT) and IPSL laboratories LSCE, LERMA and LISA prepare the joint measurement campaign COCCON-Paris (COllaborative Carbon Column Observing Network) to measure CO₂ and CH₄ concentrations in the Paris megacity area between mid April and May 2015. Six transportable ground-based FTIR (Fourier Transform InfraRed spectroscopy) instruments, jointly developed by Bruker and KIT, will be deployed to measure total columns, i.e. vertically integrated concentrations, of these two greenhouse gases (GHG) in and around greater Paris. The instruments will be set up at the city center (Jussieu) and at four stations at almost equal distance from the center, including Gif-sur-Yvette, Saclay-les-Chartreux, Piscop, Mitry-Mory (see map for FTIR fixed measurement stations below), as well as one mobile site provided by a small van, which will allow to assess how urban emissions in greater Paris contribute to the atmospheric concentrations of CO₂ and CH₄.

The mobile observation network will be reinforced by two, permanently installed high resolution instruments, the TCCON-Paris (Total Carbon Column Observing Network) at the QualAir research station of Jussieu campus and OASIS (Observations of the Atmosphere by Solar Infrared Spectroscopy) at Creteil. Further supporting data comes from SIRTA (Instrumental Remote Sensing Research Site) and other instruments belonging to the IPSL observational platform OCAPI (Observations of Characteristic quantities of the Parisian Atmosphere within the IPSL).

After a first successful campaign in Berlin/Germany last year, this is the first such measurement campaign in a European megacity (metropolitan area with population in excess of 10 million inhabitants), which aims at the measurement of GHG columns. The results will be used for comparison with satellite measurements (OCO-2, targeting mode), with the high resolution remote sensing instruments (OASIS, TCCON-Paris) as well as with the operational ground based in-situ measurements from regional and national (ICOS-RAMCES) GHG networks. Combining the observations with atmospheric modelling will then help to assess the impact of anthropogenic emissions of Paris on the observed greenhouse gas concentrations.



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