Aviation NO_x and Ozone Footprints

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Project Overview

Aviation contributes to climate change in the order of 5%. Roughly a third is due to aviation nitrogen oxides (NO_x) emissions. NO_x emitted by aviation mixes with NO_x from other sources and the detection of aviation footprints in the atmosphere is hence a challenge and has not yet been measured in the atmosphere except for fresh plumes.

In numerical simulations it is feasible to track and tag the emitted NO_x and the chemical products such as ozone. Multi-annual simulations, which include a tagging technique are available and relations between weather pattern and impacts can be established.

Thesis will be performed in cooperation with DLR

Project Goals

Identification of NO_x and ozone impacts with regard to specific weather patterns:

- Analysis of the variability in aviation NO_x and ozone
- Identifying relation to weather patterns
- Recommendations for measurement campaigns

Start Autumn 2016 or later