

Analysis of contrail formation regions and changes due to climate impacts

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Project Overview

Aviation contributes to climate change in the order of 5%. A large part is arising from contrails and contrail cirrus. Contrails form during the mixing of the exhaust with the environment if saturation with respect to liquid water occurs and temperatures are low enough. They only persist in ice super-saturated regions (ISSR).

In numerical simulations with the Earth-System model EMAC these regions were simulated from the 1960 to 2100 and data are available at a high temporal resolution (2h).

Thesis will be performed
in cooperation with DLR

Project Goals

Analysis of contrail formation regions:

- Validation of the model simulation.
- Characterisation of these regions
- Relation to weather patterns
- Identification of trends due to climate change and their causes

**Start Autumn 2016
or later**

