

EUNADICS-AV tracer experiment: Modelling and model evaluation

Aviation is one of the most critical modes of transport in this century. Even short disruptions of flight schedules result in major economic damages as was proven by the aftermath of the 2010 Eyjafjallajökull-eruption in Iceland. Air traffic safety is another important aspect. The focus of the ongoing project EUNADICS-AV (European Natural Airborne Disaster Information and Coordination System for Aviation) is on developing methods and systems which guarantee a safe air traffic and at the same time low economic damages in case of a possible natural hazard or a possible nuclear accident. In September 2018 an experiment took place in Germany and Austria in order to simulate a real emergency situation. Small amounts (5 to 10 kilograms) of a non-toxic, inert tracer gas (Perfluorocarbon-PFC) were released in Oberpfaffenhofen/Germany and Langenlebarn/Austria into the atmosphere to be transported by the wind. Altogether three aircrafts with specific measurement devices were flying through assumed regions affected by the dispersed tracer gas, which had been predicted by the atmospheric transport and dispersion models FLEXPART and HYSPLIT, to measure its distribution. In this presentation we will compare FLEXPART and HYSPLIT qualitatively for one of the tracer releases and evaluate FLEXPART based on the measurements.

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Track Classification: Theme 1. The Earth as a Complex System