



CARIBIC global observations in the WDCC

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CARIBIC is an innovative scientific project to study and monitor important chemical and physical processes in the Earth's atmosphere using passenger aircraft. Detailed, extensive measurements are made during long distance flights. We deploy a 1.5 ton airfreight container with an extensive array of automated equipment that is connected to an air and particle (aerosol) inlet underneath the aircraft.

The container has equipment for measuring ozone, carbon monoxide (a major polluting gas), carbon dioxide, volatile organic compounds, nitrogen oxides, and aerosol. Interestingly the container has a system for collecting air samples. These air samples are analyzed in the laboratory. For each sample we measure more than 40 gases. Including hydrocarbons, halocarbons and all greenhouse gases.

We used an LTU Boeing 767 for 50 intercontinental flights from June 1997 through April 2002 and an Airbus A340-600 from Lufthansa since December 2004 which already performed about 100 measuring flights.

The data collected under responsibility of the Max-Planck-Institut für Chemie in Mainz in collaboration with 12 European Institutes (cf www.caribic-atmospheric.com) are stored as project „CARIBIC“ in the CERA database of the World Data Center for Climate (WDCC) at Max-Planck-Institut für Meteorologie in Hamburg. The data collection is highly recommended for Climate/Chemistry-Model evaluation.

This poster presentation outlines the database content with respect to geographical, temporal and chemical coverage in detail.