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Seminar

The BDBP – a database for various applications

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Wednesday, March 7th, 2012
1:30 p.m. – Refreshments & Socializing
2:00 p.m. – Seminar
Foothills Lab 0, Room 2108

Abstract

A database of trace gases and aerosols with near global coverage derived from high vertical resolution profile measurements, has been assembled, the "Binary DataBase of Profiles" (BDBP). The database includes measurements from different satellite- (HALOE, POAM II and III, SAGE I and II, ILAS and ILAS II, LIMS, GOMOS) and ground-based systems (ozonesondes). In addition to the primary product of ozone, the database contains secondary measurements of other trace gases, aerosol extinction, and temperature. All data are subjected to very strict quality control and for every measurement an error estimate is included. To facilitate use, each measurement is indexed in three different ways: (1) geographic latitude, longitude, altitude (in 1 km steps) and time, (2) geographic latitude, longitude, pressure (at levels about 1 km apart) and time, (3) equivalent latitude, potential temperature and time. In an updated version 2.0 of the BDBP two more instances will be added: (4) geographic latitude, longitude, altitude relative to the local tropopause and time, and (5) geographic latitude, longitude, pressure relative to the local tropopause and time. Because the measurements are provided in their original temporal resolution rather than derived monthly means, the BDBP is applicable to a wider range of analyses than databases containing only zonal mean monthly mean data.

In the seminar, an overview of the BDBP will be presented. Additionally, two projects that are based on ozone data from the database, analyses of South Pole ozonesonde data and the creation of a vertically resolved, global, zonal mean, monthly mean ozone data set, will be discussed. A current project will also be introduced, where long-term SAGE II and GOMOS ozone measurements are combined, and offsets and drifts between the data sets removed, to form a continous ozone data set that covers several decades and extends to recent years.