Summary for the carbon dioxide data:

This data set contains carbon dioxide data measured from the NCAR C-130 on the ACE-1 program. The CO2 concentration in ppmv is given by the variable, XCOZG. These data were recorded by the RAF aircraft data system, and the time will be consistent with that in the general RAF data set. Prior to flight 14, there was a leak in one of the filters and there was considerable shift in the baseline, giving higher uncertainty in the data. The measurements of CO2 were made by a modified LiCor 6262 IR absorption analyzer. The instrument is operated in a differential mode, with a standard cylinder of CO2 continuously flowing through the reference channel. A zero measurement was made every 14 minutes by sampling the same CO2 concentration that was flowing through the reference channel. Every 28 minutes in addition to a zero measurement, two calibration measurements, about 15 ppmv on either side of the zero concentration were made. All data during the zero and calibration modes have been replaced by -32768. The data has been shifted by 20 seconds to accommodate the sampling lag. After the completion of the field measurements the calibration standards were referenced to the WMO standard CO2 scale by the NOAA CMDL laboratory in Boulder, Colorado.

Greg Kok
NCAR-RAF
Box 3000
Boulder, Colorado 80307
phone 303-497-1070
fax 303-497-1092
email kok@ucar.edu