Atmos. Meas. Tech. Discuss., 5, C908–C909, 2012
www.atmos-meas-tech-discuss.net/5/C908/2012/

Atmospheric Measurement Techniques Discussions

Interactive comment on "A simple empirical model estimating atmospheric CO_2 background concentrations" *by* M. Reuter et al.

M. Reuter et al.

reuterm@loz.de

Received and published: 10 May 2012

Editor: *The editor recommended to cite three additional references (Keeling et al. (1976), Komhyr, et al. (1985), Masarie, et al. (1995)) related to previous descriptions of the global CO2 distribution and put the authors' study into perspective and explain what the added value of their empirical model is.*

Authors: We added the following paragraph to the introduction which we have adopted in parts from the editor's comment: "Describing the spatial and/or temporal distribution of atmospheric CO_2 through curve fitting or regression has a long tradition in the in-situ measurement community. For individual measurement sites, e.g. Keeling et al. (1976) described the temporal evolution by a superposition of

Full Screen / Esc
Printer-friendly Version
Interactive Discussion
Discussion Paper

a trend component and a series of harmonic terms. Komhyr et al. (1995) applied the spline fitting technique to surface based CO_2 measurements of NOAA's flask sampling network in order to analyze the latitudinal distribution and temporal evolution. The work of Masarie and Tans (1995) is the basis for NOAA's GLOBALVIEW (http://www.esrl.noaa.gov/gmd/ccgg/globalview/) product. They developed a spatial and temporal inter- and extrapolation scheme for NOAA's flask sampling network utilizing individual site records (and climatologies) as reference time series. SECM differs from earlier approaches as it (mainly) aims at global column averages (XCO_2) rather than boundary layer concentrations. Additionally, SECM is not based on reference time series but on an empirical expression only."

Interactive comment on Atmos. Meas. Tech. Discuss., 5, 1293, 2012.