

Institute for Meteorology and Climate Research **Atmospheric Trace Gases and Remote Sensing** (IMK-ASF, RemoteC)

Comparing Ensemble Kalman filter and 4DVar data assimilation systems for CO₂ flux inversions

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 CO_2 [ppm]



[1] Cooperative Global Atmospheric Data Integration Project. 2013, updated annually Multi-laboratory compilation of atmospheric carbon dioxide data for the period 2000-2012 (obspack co2 1 PROTOTYPE v1.0.2 2013-01-28). Compiled by NOAA Global Monitoring Division: Boulder, Colorado, U.S.A.

[2] prior fluxes compiled using CASA, GFED2 (MODIS) and others as described on http://esrl.noaa.gov/gmd/ccgg/carbontracker/documentation.html









Sensitivity Studies

Adjusted model scales

Both models have parameters for adjusting temporal and spatial scales. These affect flux placement for very large or very small regions (e.g. hemisphere or county).



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