**Geoscientific
Model Development
Discussions**

Interactive
Comment

Interactive comment on "How should sparse in situ measurements be compared to continuous model data?" *by* L. de Mora et al.

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For some other figures on the impact of sampling in time and space, http://www.geosci-model-dev.net/3/717/2010/gmd-3-717-2010.html Fig. 6 and Fig. 8 may be of interest to you (capturing full model information and evading avoiding artefacts by point-to-point sampling).

Interactive comment on Geosci. Model Dev. Discuss., 5, 2311, 2012.

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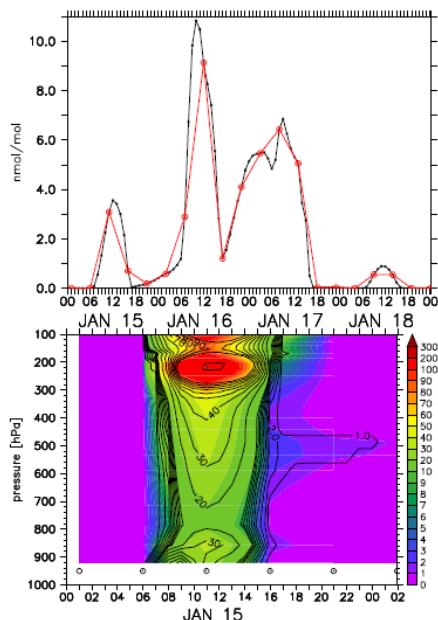Interactive Discussion

Discussion Paper

Fig. 6. Example of SCOUT output: the upper panel shows the simulated near surface NO mixing ratio (in nmol/mol) at 49.98° N and 8.23° E for 4 arbitrary days. The red line and symbols depict the off-line interpolated data based on the 5-hourly, 3-D output; the black line and symbols show hourly sampled output with SCOUT. The latter shows – as to be expected – more details, the maximum on 16 January is for instance clearly underestimated by the off-line post-processing method. The lower panel shows the OH mixing ratio (in 10^{-15} mol/mol) versus pressure altitude at the same location for the first day. The colour shaded area is for the time series sampled hourly with SCOUT, the contour lines (with the same levels) are based on the 5-hourly 3-D output. The black symbols (at 950 hPa) denote the interpolation points of the 5-hourly output.

Fig. 1. Fig. 6 Simulated near surface NO mixing ratio (in nmol/mol) at 49.98 N, 8.23 E for 4 arbitrary days. red: off-line interpolated data (5-hourly 3-D output); black: hourly sampled output
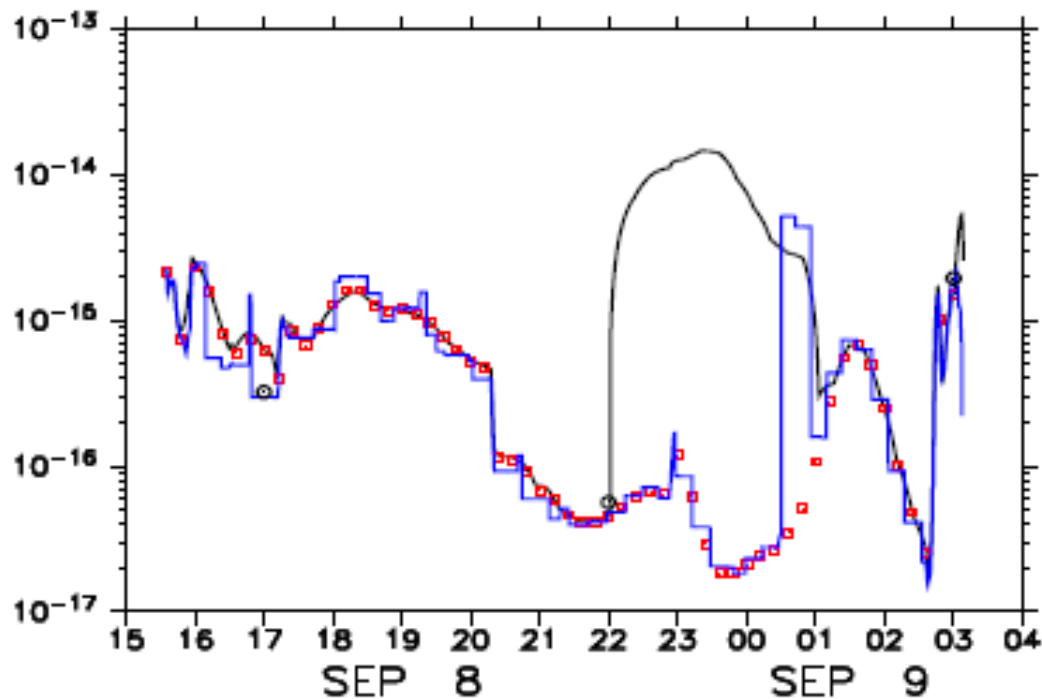
Fig. 2. Fig. 8 OH mixing ratio (mol/mol) from model output along a flight path; red: on-line sampling, black: off-line interpolation (5-hourly model output); blue: same as black, but nearest-neighbor)