



## Supplement of

## Multi-model simulation of CO and HCHO in the Southern Hemisphere: comparison with observations and impact of biogenic emissions

G. Zeng et al.

Correspondence to: G. Zeng (guang.zeng@niwa.co.nz)

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Figure S1. SH FTIR (blue) and NOAA GMD surface CO (red) measurement sites



**Figure S2.** Modelled and observed daily mean FTIR CO columns at SH stations from 4 models. Simulations use LPJ-GUESS biogenic emissions.



**Figure S3.** Monthly mean modelled and MOPITT CO columns for January and September 2005. Modelled data are convolved with MOPITT averaging kernels and a priori data. Simulations are with CLM-MEGANv2.1 biogenic emissions.



**Figure S4.** Tropospheric  $CO_{OH}$  tracer columns from 4 models for January (left) and September (right) 2005, for the CLM-MEGANv2.1 simulations.



**Figure S5.** Zonal mean and monthly mean differences in CO [ppbv] between the LPJ-GUESS and the CLM-MEGANv2.1 simulations (expressed as "CO<sub>LPJ-GUESS</sub> – CO<sub>CLM-MEGANv2.1</sub>") for January, April, July, and October. Data are averaged over 2004–2008.