

Interactive comment on “A Bayesian Ensemble Data Assimilation to Constrain Model Parameters and Land Use Carbon Emissions” by Sebastian Lienert and Fortunat Joos

Sebastian Lienert and Fortunat Joos

lienert@climate.unibe.ch

Received and published: 6 April 2018

We mistakenly quoted reviewer 2 (J.-F. Exbrayat) in the introductory statement, instead of reviewer 1 (S. Zaehle). We apologize for any confusion or inconvenience.

The paragraph should instead read:

"Lienert and Joos apply a bayesian data assimilation framework to the LPX-Bern model in order to constrain a selection of model parameters using a range of local to global carbon and water cycle observations. In the manuscript, they describe the framework and illustrate the key model performance criteria. This framework allows them to pro-

C1

vide a data-constrained simulation of the regional and global terrestrial carbon balance between 1860 and 2016, and in particular to estimate the land-use related carbon emission, including an uncertainty range.

This is a very good study integrating multiple observations in a systematic and reproducible way to constrain a process-based global carbon cycle model. This system is not only used to produce a newly calibrated LPX-Bern version for future use, but also to provide useful insight into the magnitude (and particularly the uncertainty) of land-use emissions. Overall this is a valid contribution to Biogeosciences.

Thank you."

Interactive comment on Biogeosciences Discuss., <https://doi.org/10.5194/bg-2018-62>, 2018.

C2