

Interactive comment on “Comparison of CO₂ fluxes estimated using atmospheric and oceanic inversions, and role of fluxes and their interannual variability in simulating atmospheric CO₂ concentrations” by P. K. Patra et al.

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Thank you for reading our article and providing us feedback for improving the article.

The ocean inversion, at the moment, targets annual mean flux estimation. Thus we believe our time-dependent inversion (TDI) framework is not suitable to test this. We would prefer to have seasonally varying fluxes of CO₂ as a presubtracted flux field. However, there are some ongoing analysis for estimating the effect of presubtracted ocean flux, from ocean inversion, on the estimation of land fluxes using the time-independent (annual mean flux) inversion of atmospheric-CO₂ (Jacobson et al., 2006, GBC, in review).

We shall revise Figure 1 to show the land region divisions used for the 64-region inversion. This has also been suggested by Reviewer 1.

Page 6810: We feel there is some misunderstanding here. This sentence refer to the 1997-1998 El Niño period only. This will be clarified in the revised version of this article.

We can expand this part, if we are allowed. However, we would like to draw your attention to Patra et al. (GBC, GB3005, 2005) here. The interannual variability in 64-region TDI CO₂ fluxes for Tropical South America, Tropical Asia, and Boreal Asia are discussed in detail. If you have any specific interests in sub-continental scale fluxes, we shall be more than happy to share our results with you. Since this article is designed for overall validation of our TDI modeling framework, the flux variabilities at finer spatial scales are not shown.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 6801, 2006.

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