

Editor Decision: Publish subject to technical corrections

Comments to the Author:

I'm prepared to accept but am not completely happy with two new sentences in the abstract, which I'd like you to revisit:

"These inverted ecosystem-type-related carbon fluxes have large Gaussian uncertainties. This may be because (i) the detailed CO₂ flux 20 partitioning in the assimilation system relies on the ecosystem-depended prior model set, and (ii) the available observations for individual ecosystem types in Asia are limited."

What I find odd is the need to speculate ("This may be..") about formal sources of error. Can the two sentences not be joined ".. have large Gaussian uncertainties because the detailed..." Or if this is not correct, please find another solution. Also, it seems to me that a major issue involves uncertainty in the priors. While the second sentence does indeed mention the dependency on priors, it does not adequately emphasize their contribution to the uncertainty.

Response:

Thank you for your suggestion. We agree that the description about the uncertainties of ecosystem-type-related carbon fluxes is not very correct. We have revised this sentence in our updated abstract (see *Page 3 lines 19-23*).