Atmos. Chem. Phys. Discuss.,
https://doi.org/10.5194/acp-2018-208-RC2, 2018

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Contrasting behaviors of the atmospheric CO_2 interannual variability during two types of El Niños" *by* Jun Wang et al.

Anonymous Referee #2

Received and published: 15 May 2018

This paper investigates the relationship between atmospheric CO2 inter-annual variability and El Nino events through dynamic vegetation models using the composite analysis technique. Several meteorological factors are considered in the analysis, for example, precipitation and temperature; and radiation data was not included in the analysis. The authors discussed the potential impacts radiation variability could have on the land biosphere dynamics and, subsequently, the atmospheric CO2 inter-annual variability. The title of the paper emphasizes two types of El Nino events, and the authors present a lot of details about these two types of events, but it would be great if the authors could articulate to readers why it's important to separate the two types of El Nino, and its importance to the atmospheric CO2 inter-annual variability and global carbon cycle. In general, I recommend this paper be published.

Printer-friendly version

Discussion paper

Some detailed comments and questions:

For the TRENDY simulations, are consistent vegetation data used amongst the models?

The composite analysis technique is very important in this study. Maybe it's better for the authors to explain briefly in the paper what this technique really is?

The English used in the paper needs further edits to eliminate some grammatical and word usage mistakes.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-208, 2018.