

Dear ACP Editor:

We have addressed the comments raised by the reviewer, and incorporated them in the revised manuscript. Please find below our itemized responses to the reviewer's comments.

Thank you very much for your consideration.

Sincerely,

Dan Chen, et al.

COMMENTS TO THE AUTHOR(S)

2015 and 2016 winter-time air pollution in China: SO₂ emission changes derived from a WRF-Chem-EnKF coupled data assimilation system

Manuscript ID: acp-2018-1152

Authors: Chen, et al.

Reviewer #1

Dear authors,

Thank you for providing a detailed revision and meaningful answers to most of the points addressed.

Find below some minor points which should be accounted for before publication:

a) Abstract: Line 10: still unclear what is meant by that line. Please specify what is meant by 'newly added sources' here. Please double-check if the abstract can be understood without knowing the manuscript and meets the criteria as listed at the ACP page.

b) With 'missing articles' I literally meant the missing of 'filling words' such as 'a', 'the' etc. please check again

c) With 'USGS 2m' you actually refer to minutes, correct? please clarify

Response:

Dear reviewer,

Many thanks for your valuable and insightful suggestions that helped to improve our manuscript!

We have made several changes accordingly. Revised manuscript is after the response letter.

1. Actually 'newly added sources' means “new” (emerging) emission sources that not considered in the prior emission inventory’. In our study, some emerging emission sources occurred in Xinjiang and the Energy Golden Triangle regions from 2010 to 2015, due to the energy expansion strategy. We have changed the statement accordingly in the abstract. We also asked the colleagues to read the abstract to make sure it meets the criteria as listed at the ACP page.
2. Thanks and sorry for the confusing! Actually we hired the editing service from American Journal Experts (www.aje.com) and edited the manuscript thoroughly. Those missing articles had been checked and corrected carefully.
3. Thanks! Yes, we are using USGS 2 minute data. We have clarified in the text.