

## ***Interactive comment on “Impact of convective transport and lightning NO<sub>x</sub> production over North America: dependence on cumulus parameterizations” by C. Zhao et al.***

**O. Cooper (Editor)**

Owen.R.Cooper@noaa.gov

Received and published: 12 March 2009

Dear Dr. Wang,

Thank you for your quick reply to my comments on your recent manuscript. This is exactly the type of interaction that is encouraged by ACPD. Overall I think the authors did a good job on the first draft of the paper, so when I listed "two major deficiencies" my phrasing was overstated and I should have said something like: there are two areas where improvement could be made.

What I am looking for when I requested a more extensive comparison to previous work, is essentially an extension of your section 4.3 by no more than two paragraphs. One

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



paragraph could compare the general contribution of LNO<sub>x</sub> (in percent) to the upper tropospheric NO<sub>x</sub> budget in your paper to the results of the other recent papers that I mentioned in my review. I'm not looking for an explanation as to why the models differ, which as you point out could be the topic of a whole other paper, I just want the reader to be able to quickly tell how your budget compares to other studies. If the reader has questions about why the models differ he/she can then read the other papers. I would also like to see a paragraph that compares the general percentage (or ppbv) of upper tropospheric ozone produced by LNO<sub>x</sub> in your study to that of the other studies. This would also be for the purpose of allowing the reader to place your results in the context of other studies.

The contribution of lightning to upper tropospheric ozone and NO<sub>x</sub> above North America is an exciting new topic and so many new studies are appearing that within the next two or three years there will be a need for someone to weigh the results and write a review paper (similar to, but shorter than, Schumann and Huntrieser, 2007).

Best regards, Owen Cooper, co-editor ACPD/ACP

---

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 2289, 2009.

[Full Screen / Esc](#)[Printer-friendly Version](#)[Interactive Discussion](#)[Discussion Paper](#)