

***Interactive comment on* “Regional-scale modeling of near-ground ozone in the Central East China, source attributions and an assessment of outflow to East Asia – The role of regional-scale transport during MTX2006” by J. Li et al.**

Anonymous Referee #1

Received and published: 29 August 2008

In the study "Regional-scale modeling of near-ground ozone in the Central East China, source attributions and an assessment of outflow to East Asia – The role of regional-scale transport during MTX2006," authors J. Li et al. employ a regional chemical transport model to analyze the sources and mechanisms contributing to observed measurements taken in June 2006 at Mt. Tai in Central East China (CEC).

Overall, the study presents a clear analysis using novel data – surface ozone concentrations are quite rare in China, especially in the highly polluted CEC region. The authors focus on June, the month of maximum monthly mean ozone concentrations in

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the region, and employ the NAQPMS model for their analysis (developed by co-author Z. Wang, and appears to be similar to widely used chemical transport models such as CMAQ and WRF-Chem). By contributing to an important region for air quality analysis and atmospheric chemistry, the paper should be of interest to ACP readers and would be suitable for publication with minor revisions.

Two general areas need improvement, however:

* First, the authors must devote significant effort to editing for English, grammar, and figure correctness. Specific examples are noted below under Technical comments, but the extent of errors throughout the text is a significant problem.

* Second, the authors should discuss how their study year, study month, and individual case studies compare with other years, other seasons, and characteristic weather patterns in the region. Section 3.2.2 and figure 7 focus on the specific meteorological conditions associated with the high- and low-ozone case study periods. This analysis would be made more relevant if it were compared with meteorological behavior beyond these three case studies. The authors note that a forthcoming paper will evaluate the seasonality of ozone at Mt. Tai, but some general points on seasonality, interannual variability, and the representativeness of the selected case studies should be included here as well.

Overall, the paper contributes to understanding of atmospheric chemistry and air pollution over CEC.

Specific comments:

* Title is too long, and contains a minor English error ("the Central East China" should be "Central East China")

* p. 13162, last paragraph - Some comment here on how June 2006 compares with other years would be valuable.

* p. 13167, last paragraph - "The observed mean of

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* p. 13169, in discussing Figure 3a, I would recommend discussing Case I first, then Case II (currently, II is discussed before I).

* p. 13172-13173, the meteorology associated with Cases I, II, and III should be put in context – were these unusual weather patterns? Or were they typical?

Technical comments:

* Too many to specify all - detailed English editor needed. A few are noted, here:

* p. 13168 "reprehensive" should be "representative"; "systematic underestimated" should be "systematically underestimated"

* p. 13171 "takes the most fractions" should be "contributes the greatest fraction"; "sources regions" should be "source regions"; "formeing" should be "forming"

* p. 13173 "dominated" should be "dominant"

* p. 13174 "underlyingsurface" should be 2 words; "CHMSEA" should be "CHNSEA"

* Figure 8 needs labels for a, b, c, etc.

* All figures need larger font for numbers on legend and on contour lines. Numbers are too small to read on printed version of paper.

* p. 13176 "month mean" should be "monthly mean"

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 13159, 2008.

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