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Comment

Interactive comment on “Significant impact of the East Asia monsoon on ozone seasonal behavior in the boundary layer of Eastern China and the west Pacific region” by Y. J. He et al.

Anonymous Referee #1

Received and published: 18 September 2008

This is a well-organized and clearly written paper on seasonal behavior of surface ozone over East Asia, a region with large and rapidly increasing anthropogenic emissions of photo-chemically active pollutants and also under strong influences of the Asian monsoon. Although seasonal variations in boundary layer ozone have been widely studied, and the influence of the monsoon on Asian outflow is well-known, this study presents a new and detailed comparison of ozone seasonal patterns in clean monsoon oceanic area, polluted monsoon oceanic area, polluted monsoon inland area, polluted area, and no-monsoon inland area. The CMAQ model system plays an s an important role in this study, and observed ozone concentrations at seven stations in the year of 2004-2006 are used to evaluate its performance. For comparison, “

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of the daily mean data were calculated based on the mean of three years' data and then smoothed by using a 15-day running average'. Why is a 15-day running average used for the data pre-process? Besides, I think it's easier to evaluate model performances by displaying paired modeled and observed ozone time series in one plot than drawing all observed lines in one plot and modeled in another as shown in Figs. 2a and 2b. A sensitivity experiment by closing all emissions in China (excluding Taiwan) is conducted. We all know that ozone chemical production is quite nonlinear, so none emissions in China would lead to ozone destructions or unreasonable ozone concentration distributions (depending on default methane levels) over there. If so, to which extent are the results of this sensitivity experiment reasonable?

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 14927, 2008.

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