

Interactive comment on “Asian emissions in 2006 for the NASA INTEX-B mission” by Q. Zhang et al.

Anonymous Referee #2

Received and published: 27 March 2009

This paper presents an Asian emission inventory for major air pollutants in year 2006. It has also updated the 2001 inventory using several improved methods. This updated emission inventory is much needed for addressing regional air quality, atmospheric chemistry and climate change in Asia, in view of the rapid changes in air-pollution emission since 2000. The improved methodologies allow more accurate estimates of emissions in Asia. The manuscript is well organized and clearly written. I have following comments and suggestions for the author to consider.

The current inventory did not update the NH₃ emission in China assuming that agricultural activities have not changed significantly since 2001 (without supporting information). However, a major source of NH₃ is livestock whose emission may have increased with the rising standard of living. Thus the NH₃ emission in the current inventory may have been underestimated.

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A major difficulty in developing emission inventories is to obtain relevant data, which is particularly the case in China. More elaborate discussion should be given on the source of data for the parameters used in estimating provincial emission (Formula (1) and (2)). Large sources such as power plants and large factories are relatively easy to identify, but how are small- to medium-sized industries identified? Does the penetration of pollution-control technologies (thus the emission factors) vary from region to region?

It would be good to give an uncertainty in the emission estimate for each pollutant in terms of percentage, as has been done in the TRACE-P inventory. This would alert the users to use the emission data with different levels of confidence based on the uncertainties. While the author pointed out the general consistency between the emission and the satellite data for limited pollutants, it is important to call for more evaluations of this new inventory.

Minor:

Page 4090, line 23: change " raise they" to "they raise".

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 4081, 2009.

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