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Interactive comment on “Input and output of dissolved organic and inorganic nitrogen in subtropical forests of South China under high air pollution” by Y. T. Fang et al.

Y. T. Fang et al.

Received and published: 2 January 2008

Response to comments by Anonymous Referee # 3

Authors answer to specific comments:

1 The quality and style of the English used, particularly in the Abstract and Introduction, needs attention. This detracts from an otherwise good paper. There are too many specific comments to list them all here. A: We will ask an English expert to correct English of the revised version of the manuscript.

2 Page 4136 Lines 15-20: It is mentioned that there is a net loss of 8-16 kg/ha/yr in the old growth forests; it might be worth while mentioning where this extra N comes from.

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A: While we calculated the input-output budgets and estimated a net loss of 8-16 kg N/ha/yr in the old-growth forest, it was too speculative to pinpoint exact causes in the Abstract. We did have addressed the possible cause in our discussion (e.g., mining of organic N).

3 Page 4151 Lines 17-26: Mentions the mining of pre-existing organic N. Do you have any estimates on what N fixation could be in these forests? Could current N fixation balance against the current net loss? A: These questions make us rethink the cause of net N loss. A net N loss observed in our study might result from the mining of the pre-existing organic N (which could be due to enhanced net N mineralization rate), but also be result of reduced N uptake by vegetations as indicated by the reduced tree growth. So we will change the sentence 'The results above indicate...(Line 18-19 Page 4151)' to be: 'The results above indicate that the upper 20 cm soil is well saturated with N. It might result from 'mining' of the pre-existing organic N and/or reduced N uptake by vegetations.' Another possible contribution to the imbalance between input and output is N fixation. There is a N fixation species (*Erythropileum fordii* Oliv.) recorded in the old-growth forest, but the N fixation has not been assessed yet.

Interactive comment on Biogeosciences Discuss., 4, 4135, 2007.

BGD

4, S2274–S2275, 2008

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