

Editor's clarification: Note that the reviewer is also requesting a more comprehensive comparison to existing literature in this comment ("A comprehensive overview about the existing literature is still missing for the analysis of SO₂ changes.") and is referring Krotkov et al. as an example related to Figure S2. I saw you added a short paragraph on Krotkov et al., but please make sure you have also included comparisons to any other appropriate references to put your results in context.

Response: Although I only used SO₂ here to investigate if emission changes in Southeastern Asia might have affected satellite NH₃, I have done my best to discuss SO₂ in more detail adding numerous references that show trends during the last 30 years. Please see Track Changes in Section 3.2.

Editor clarification: It seems to me that the reviewer is asking you to clearly state that bi-directional exchange of NH₃ with the Earth surface was not considered. I don't think they are referring to atmospheric transport. Note, they also ask that "The potential impact on the inversion results should also appear in the text." Please resolve the issue and/or respond as appropriate.

Response: OK, I now understand. I remember I replied that we do not account for compensation point of NH₃ from stomata and tree canopies, but I probably forgot to discuss it in the text. I have now added a few sentences in section 4.3 explaining how this affects surface NH₃ in the comparisons, exactly as the reviewer asked for. Please see Track Changes in Section 3.2.