

Dear Editor,

Thank you for your very thorough readthrough of our manuscript.

NO_x, NO_y, and NO_z have been corrected to NO_x, NO_y, and NO_z, respectively throughout the manuscript, supplementary information and figures and the header “Summary” has been changed to “Conclusions” as requested.

The abstract and conclusion have been revised according to the guidelines for ACP as described below.

Abstract:

The topic of the article, status of the scientific understanding and the gap in knowledge have been addressed in the new first sentence:

“The budget of reactive nitrogen species, which play a central role in atmospheric chemistry (e.g. in photochemical O₃ production), is poorly understood in forested regions.”

The objectives and approach of the study are described in the second sentence:

“In this study, through observations of NO, NO₂, NO_y and O₃ in the Rambouillet forest near Paris, France, we have examined nighttime processes controlling NO_x in an anthropogenically impacted forest environment.”

The main results have been edited slightly from the original version to keep the abstract at 250 words and the last sentence of the abstract show the importance of the study:

“Our results indicate that the nighttime deposition of NO₂ is a major sink of boundary layer NO_x in this temperate forest environment.”

Conclusion:

In the original conclusion the results of the study were summarized, compared to previous studies and put into context by comparing the lifetime of NO₂ required to explain the measurements to the lifetime of NO₂ towards OH and O₃. Caveats and limitations have been added to the conclusion with the following sentences in line 535-539:

“The uncertainty in the estimated NO emission rate is determined from the uncertainties in NO and O₃ at 3-5 m above ground, which leads to higher relative uncertainties at low NO and O₃ mixing ratios. Measurements of either NO fluxes or highly resolved height profiles of NO and O₃ will improve the NO emission rate estimate during future field campaigns.”

Best regards,

Dr. Simone Thirstrup Andersen