

Interactive comment on “Atmospheric reactive nitrogen concentrations at ten sites with contrasting land use in an arid region of Central Asia” by K. H. Li et al.

Anonymous Referee #2

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General Comments: This manuscript, “Atmospheric reactive nitrogen concentrations at ten sites with contrasting land use in an arid region of Central Asia”, is a good baseline assessment of the concentrations of nitrogenous species for an understudied region of the world, the arid Xinjiang region of China. This study will provide foundational information in understanding air quality over this region. That being said, there is nothing particularly novel or noteworthy about the study, it is a simple assessment of the region. In addition, it is quite short, so it’s difficult to ascertain its potential impact. However, these types of baseline studies are still important in contemporary ecological sciences.

Specific and Technical Comments: I would like to begin with the caveat that my exper-

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tise is in the impacts of excess atmospheric N on ecosystems (aquatic and terrestrial), not on the technical areas of the measurement of atmospheric concentrations. Thus, I rely on others to assess the technical approach in this effort. That being said, there were areas for improvement of the study.

I would have like to see more extensive analyses of the results presented, which are numbered here. (1) There is no information as to which differences were significant and which were not, this could easily be added in a Table. (2) I would like to see greater analyses as to correlations among the different air pollutants, in addition to correlations with environmental factors (i.e. in Figure 6). (3) The regressions in Figure 6 do not conform to homogeneity of variance assumptions. I would suggest making some transformations to the data, or using a more generalized approach.

Figure 3 and 4 are very difficult to read as to render it non-informative. I would suggest trying some other configurations.

Not all farmland is the same, and there should be some elaboration as to the different land uses on the region (if there are any).

The discussion is very clear, though I would like to see more information as to how these results are similar to or different from (and why) other studies. It is quite short, so it’s difficult to assess the implications of this study.

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