Major comments- I find this paper poorly referenced, and basically, this paper provides no new information except for the fact the measurements were made in China. As I suggested in my initial review this paper is not suitable for an international journal such as ACP.

Line 63 please add Engle et al 1 regarding atmospheric ozone.

Please remove the sentence that starts line 84 “This study is, to our knowledge.”

Do you have a research hypothesis that guided your work?

Line that starts 106 this is simply not true. Please do a full literature search.

Sentence line 160 –soil-air flux is also driven by processes occurring at the surface.

Again the authors need to do a more complete literature search. A couple of examples include...2-5

It is not as simple as Fick’s law.

For your gold trap analyses how did you do this and what was your analytical precision?

For your flux chamber please provide dimensions’ turnover rate etc. in the main text.

For section 3.2 consider some references that provide the data and conclusions that are presented in Agan.

Another reference to consider is 7.

Pg 8 other references to consider include 8 and 2.

I do not understand how you made the soil gas contour points when you were only making measurements at one location.

Please check significant figures throughout the paper.

Line 465 remember that just because there is a correlation it may not really mean anything.

Line 483. I think photoreduction of Hg(II) deposited to the soil is an important process that needs to be considered and you need to rethink this. Doing a more complete literature search may help you quantify this process. Try also looking at Eckley6, 9, 10
