Ensemble Predictions of Air Pollutants in China in 2013 for Health Effects Studies using WRF/CMAQ Modeling System with Four Emissions Inventories

Reviewer suggestion: *Accept after revision*

General comments:

This study is somewhat comprehensive; the modeled output has been compared with observations adequately. I think there is enough scientific merit in the manuscript, and so I would recommend it be accepted after minor revision. I encourage the authors to pay attention to the following comments:

Major comments:

The manuscript needs to be carefully revised. In general, there are places where it is difficult to follow what the authors are trying to convey to the readers. It suffers from lack of flow, perhaps, because of typos, wrong expressions, and many grammatical mistakes. The authors may consider to pay more attention to the construction of sentences and read the manuscript carefully to avoid typos. The results section is well described; however, I would request the authors to use short sentences to avoid getting the readers lose their track of what was said in the beginning of a sentence.

Specific comments:

1. P3L58: The first sentence of the manuscript is inaccurate. Correct English is "China has been suffering **from** …." The authors may also want to rewrite it.

2. P3L64-65: …threatens public health in this country (Which country is this?). I am guessing the authors wanted to say …threatens public health in China.

3. P3L69: What are "central monitor" measurements? Please do not assume the readers will have an idea about it. It would be better if the authors explain it in a nutshell.

4. P3L77: Omit "the" in front of meteorological fields.

5. P3L86-87: ..large uncertainties remain. Correct: …large uncertainties still remain.

6. P3L89-90: ..,and the efficiency of emissions controls and their fractional penetrations into the industries. The authors got me lost here. Please make it clear about the intent of this sentence. It is hard to get the meaning out it.

7. P5L150: It has been showed that these…, correct present particle is "shown".

8. P5L171-172: I see that the description of the techniques for emission estimates are somewhat referred for reading, but I would urge the authors to describe the "technology-based uncontrolled" and "penetrations of control technologies" terms in some plain language so that the readers have some understanding of these terms without having to look into the referenced materials.

9. P5L187-188: The S1 Table contains the emissions summary for a "typical workday" in season? What about the weekend? How does the weekend emissions vary from a weekday?

10. P6L212: Reference needed for MEGANv2.1 biogenic emissions processor.

11. P6L218: "In-line" is a one word. Correct it in the manuscript.

12. P6L222: Reference for WRFv3.6.1 is needed.

13. P6L232: Maybe it will be a good idea, if the authors summarize boundary concentrations for major species and put them in a table in the supplemental.

14. P9L325: REAS2 predicted O3-hr values are lower….. Needs attention, comparative sentence missing "than".

15. P15: The authors may consider using unabbreviated forms of the performance matrices so that the readers can follow easily in the conclusion section as these are defined way earlier in the manuscript.