Dear ACP editor and reviewers,

We thank both reviewers for their positive comments and constructive suggestions. Below we provide our point-by-point replies to their comments (which are **in bold**).

Referee: 1

"Future changes in PM2.5 precursor emissions are not considered in this study, as the focus is on the effects of circulation changes in a future climate. These are driven by changes in greenhouse gas concentrations and other climate forcers." It should be causion to present as it is, since that other climate forcers also include aerosol precursor emissions. And in the polluted region like China, the role of aerosol variation on climate change could be comparable to, or even larger than, the greenhouse gas concentrations.

We have rephrased this part in the main text (revised manuscript page 4, lines 26-29),

"We use this strong climate change scenario to quantify how changes in climate alone are likely to affect $PM_{2.5}$ concentrations in the region. Note that the projected circulation changes will be affected by changes in the emissions of both greenhouse gases and aerosol precursors, while the direct contribution of precursor emission changes to the future evolution of the $PM_{2.5}$ concentrations is not considered in this study."