Response to Reviewer 2 Comments

**Point 1:** Figure 1: need to better distinguish Northeast China and East China.

**Response 1:** We accept the suggestion and have changed the symbol.

**Point 2:** line 107 (and elsewhere where you've discussed the selected 337 cities under study). You have not always been consistent in describing them (here they include prefecture-level cities, but elsewhere only above-prefecture). Might also be helpful discuss here the population ranges of included cities, since your conclusion highlights the rapid growth rates in some of China's megacities.

**Response 2:** Thank you for your suggestion and we accept it. Some information about the population ranges of these cities are add to Section 2.1.

**Point 3:** Table 1: as my handwritten comments suggest, the table content needs to be augmented to include other data parameters (such as resolution) and a better alignment on its content and accompanying text.

**Response 3:** We accept this suggestion. The resolution, months of the data are added and a better alignment has been made.

**Point 4:** Figure 2 was not visible to the reviewers in the pdf provided.

**Response 4:** I'm so sorry for that. We have added the Figure 2 by .jpg rather than .vsdx so that the online system can correctly transfer a docx to a pdf.

**Point 5:** The principles for "Urban Area Extraction" (page 6) were overall helpful; principle (4) for determining urban landscapes needs to be clarified … is this for determining "built up" versus non built-up areas; this principle seems to include residential (that is, housing) component but not the commercial or institutional portions of a city -- not sure how you can readily resolve this using the scales you are at.

**Response 5:** Thank you for your question. Principle (4) is about how to judge a region considering its surroundings. Of course, the "built up" areas includes the commercial or institutional portions. Meanwhile, these areas like commercial or institutional portions are not easy to identify only by remote sensing imagery since they are all buildings there, and the data of Geographical Conditions Monitoring Project can help to make it clear when we meet difficult situations. In fact, this kind of situations are not so many, a cluster of high-rise buildings among other clusters of high-rise buildings must be urban whatever they are institutional, commercial or resident. The regions at the edge of urban also can be judged by surroundings and their characteristics, mostly. So, the place and its surroundings make the urban landscapes, and the urban landscapes are important to make the place urban or not urban.

**Point 6:** Figure 3: more information needed in the caption as noted by handwritten comments.
Response 6: We accept this suggestion and more information has been added.

Point 7: Line 233, some additional citations (or references) are needed to substantiate the frequent use of these indicators.

Response 7: Thank you for your suggestion and we have added some citations.

Point 8: Line 261, mention of a 'structural capacity (Sc)' term which is lnP1...later in the manuscript, there is some confusion noted (see later comments).

Response 8: Thank you for your suggestion. We have checked and corrected this part. LnP1 should be lgP1.

Point 9: Line 291 (again some confusion noted in handwritten comments confusing how the 337 study cities are described).

Response 9: Thank you. These 337 cities are cities at prefecture level and above including capital cities, prefecture-level cities, autonomous prefectures, regions, and alliances in mainland China. This has been corrected.

Point 10: Line 304 (how is construction land treated in the final analysis, since it on the way to something else).

Response 10: Thank you for your question. Forgive me for my poor English, I meant to express that the construction land can be separated using high-resolution remote sensing images and difficult to be separated by MODIS or Landsat images. We have corrected this.

Point 11: Line 316 the term 'exponential' implies run away growth and has a specific scientific/mathematical meaning. Growth in these cities is significant but NOT exponential.

Response 11: Thank you for your suggestion and we have corrected it.

Point 12: Figure 4: several comments made on this figure, particularly some confusion on the structural capacity term presented here versus that on Line 261; some clarity needed to clearly label the figure so trends are visible.

Response 12: We accept your kind suggestions and make changes in the appropriate location of Figure 4.

Point 13: Page 11 (lines 342 to 361), feel this paragraph needs a data table and the paragraph needs to be re-written to clear explain what constitutes a megacity, the change(s) in government policies that have influenced them over time and what your results actually show; the data table should include the changing characteristics noted in the mega cities, as the changes in mega cities seems a key conclusion in the paper.

Response 13: We accept your suggestion and re-write this paragraph so that it can be clearer for reader to understand.
**Point 14:** Figure 6 (page 12) needs to be re-thought. I think the map would be better as a choropleth map showing urban expansion rates by prefecture. The two circled elements (i.e. speed and intensity of sprawl and urban sprawl speed) could be separate diagrams as they are too small in print to see what is shown; a more thorough discussion is needed throughout this section to explain Area Speed and Intensity statistics shown.

**Response 14:** Thank you for your suggestion and we have updated Figure 6 and this paragraph.

**Point 15:** Figure 7 (discussed in text on pages 13-14) would be better as a table -- I would include a map of two example cities (perhaps one showing the infilling character and one showing the edge expansion character).

**Response 15:** We accept your suggestion and two example cites have been added.