Thanks for the comments that you have inserted in our manuscript. They have been very useful for us to improve the paper. Please, find below the answers to your questions and the amendments that will be introduced in the revised version of our manuscript, one by one. All changes we have made to the original text appear in italics.

Line 42. It is pointless to use two digits since the standard measurement precision is about 0.1°C

We have changed 0.12 by 0.1 and 0.45 by 0.5 and clarified the sentence. The new sentence is:

"places the average annual temperature 42 increase ratio per decade between 0.1 and 0.5°C in the period from 1961 to 2010 *in the cities analyzed in it.*"

Line 43-44. Are these (2050, 2080) one year mean temperature. Using climate models in this way is not correct, since the mean values are represent the real conditions in 30 year long periods. Please check and clarify.

We agree with you. Projections are obtained for periods of 30 years. It is usual to represent them for a year that is approximately in the middle of the period, in such a way that 2050 represents the conditions towards the middle of the century and 2080 represents them towards the end of the century. In this case 2050 refers to the period 2040-2070 and 2080 refers to the period 2070-2100, as it is shown in the ARC3.2 report at page XXI. The new sentence is:

"And it is estimated that the temperature will rise between 1.3 and 3°C towards *the middle of the 21st century (2040-2070) and 1.7 to 4.9°C towards the end (2070-2100)*".

Line 70. Citation is more than enough. I recommend to exclude S1.

We have excluded Figure S1 and the citation of Stewart and Oke 2012 has been included.

Line 84. LCZ is a categorization based on the thermal characteristics of the landscape. Radiative characteristics is also true since the radiation will role the thermal reactions. The point is that based on this sentence it is a new approach to use LCZ for estimation "the level of heat exposure to adverse climate conditions". By the fact it is one of the main goal of LCZ so is recommend to rehearse this sentence.

You are right. We are modified the sentence as follows:

" *Due to LCZ classification* was originally designed *to mainly* describe the *thermal* characteristics of the different land covers and land uses*, it is useful to* be applied to

estimate the level of heat exposure to adverse climate conditions *that is one of the main goals of this paper."*

Paragraph 108. Unnecessary.

We have delated the paragraph.

Lines 122 and 123. Replace dot by comma.

We have replaced 3,2 and 1,6 for 3.2 and 1.6

Line 185. It is local climate zones? Urban Climate Zones are also an urban classification presented by Tim Oke. I do not know how does it comes here. Please describe, define and cite. In case that is is LCZ than correct it. Oke, T.R., 2004. Urban observations, World Meteorological Organization, IOM Report N° 81, WMO/TD n°1250.

Thank you for your comment. We have added this reference to the Introduction, when we present Local Climate Zones. The paragraph comprised between lines 65 and lines 67 has been modified as follows:

"Moving forward from this premise, a new methodology *based on the Urban Climate Zones defined by Oke (2004) and call*ed Local Climate Zone (LCZ) classification has emerged (Stewart and Oke, 2012).

We have also modified the sentence of line 185 as follows:

"The Building Heights is another layer of the map, and was made with a LIDAR sensor, which was also used to discern between the different *building types of each* LCZ."

Line 389. Please specify and cite.

We have not found any paper that correlated LCZ and climate outputs. Consequently, we have only added some references to studies that characterize the LCZ in different cities.

Currently, there are multiple studies characterizing LCZs using urban model outputs (Aminipouri et al., 2019; Beck et al., 2018; Geletič et al., 2018; Kwok et al., 2019; Unger et al., 2018), but*, until now, there are not studies with climatic outings that* span so many years.