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Discussions

Interactive comment on "Local models reveal greater spatial variation than global grids in an urban mosaic: Hong Kong climate, vegetation, and topography rasters" *by* Brett Morgan and Benoit Guénard

Anonymous Referee #3

Received and published: 23 January 2019

Review of Morgan and Guenard ESSD Jan 2018

This paper describes a dataset of geographic, biological and meteorological rasters at 30 m resolution for the territory of Hong Kong.

It is clear how and why these data are useful, and the paper describes the process used to create the dataset fairly well. However there are some things that need to be clarified before the paper is accepted for publication.

I've also included some suggestions that may improve the final manuscript.

Major comments on the paper and dataset

- Throughout section 4, you provide comments on how the dataset you have created could or should be improved. This is useful, but it also gives the impression that your dataset is not that good after all. It would be better to either a) clarify in the introduction and abstract that this work is simply a first pass, and that more needs to be done, or b) collect all of these comments in a separate section. Perhaps you can include them in section 4.4: limitations and next steps.

- Data: I found it hard to quickly extract information about the datafiles from the figshare website. Can you reproduce Table 1 along with the data?

- Why are you not providing the monthly data through figshare or the doi?

- Many of the data files seem to be relatively binary: black or white. I'm not an expert in rasters so I might be missing something here, but how can I extract the high-resolution detail you are championing in the article?

Minor comments and suggestions

-Page 1, line 4: 'variations' not 'variation'

-Page 3, line 22: are hill fires always human-induced?

-Page 5, line 2: 'temperature buffers' not 'a temperature buffer'

-Page 5, line 22: can you provide a reference to Hong Kong's dense network of stations?

-Page 5, line 27 and 28: I think you should add the word 'absolute' before the variables maximum and minimum temperature, to clarify that these are the highest and lowest temperatures recorded in each month.

-Page 6, line 10: why do you have high confidence in the long-term averaged weather station data?

-Page 7, line 8: please refer to the resolution of the rasters as 30m, to be consistent -

-Page 7, line 15: Aren't you only providing the rasters at one scale?

-Page 8, line 5: Can you provide a brief explanation why the highest maximum temps are in inland valleys?

-Page 8, line 15-16: Aren't you arguing in this study that your new dataset is high resolution? Consider rephrasing this sentence.

-Page 9, line 29: I would say 'our models', rather than 'The new models'

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