

Interactive comment on “A 30-meter resolution national urban land-cover dataset of China, 2000–2015” by Wenhui Kuang et al.

Anonymous Referee #2

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This study proposed a method to provide multi-year urban land cover maps for China. However, the proposed method suffers from several critical issues and uncertainties remain for the resulted maps. Thus, I do not recommend this manuscript to be accepted for publication in the journal.

First, my main concern is the accuracy of these maps to detect urban land cover changes. It is more important for readers to know the accuracy of change detection than merely mapping accuracy of each year because this is the reason why we need maps at multiple time points. Meanwhile, CLUD was created by visual interpretation and ignored small urban clusters and human settlements as indicated by Fig. 8. Thus, the maps generated in this study seem to lose the details that the 30-m resolution Landsat images can provide. In addition, the created maps should also be compared

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to more existing urban maps with higher spatial resolution than the ones used in this study (Fig. 8), such as the Global Human Settlement Layer and Global Urban Footprint.

The method that used NDVI as the single indicator to estimate surface imperviousness is problematic due to the confusion between bare land and impervious surfaces. This is especially true for China where a large amount of bare land existed due to rapid urbanization during the study period. Although the authors used EBBI to extract bare land, the capability of this index to differentiate impervious surfaces and bare land across biomes is uncertain.

The method used to temporally adjust multi-year ISA is also questionable because urban redevelopment (e.g., convert high ISA urban villages to high residential buildings with vegetation) is very common in Chinese cities. Thus, the invertible assumption of urban development is problematic, especially for this study that aimed to detail intra-urban land cover change. Additionally, the authors mentioned that the 2015 map was the most accurate so that it was used as reference to temporally adjust ISA in previous years. Quantitative results were needed to support this decision and whether the 2015 map was the most accurate across regions should be addressed.

Line 2, Page 3: 30-m resolution is not “high-resolution” Line 15, page 5: not just “Javascript”

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