

General comment:

The work put into developing the GLC-2015 product can fulfill the global land cover data pool and may give us more precise information about the Earth system. Before being published, the manuscript still has to go through revisions. Authors should include more product comparisons to further prove the advancement of their product.

Suggestion and comments

1. The main concern is the results given in Tables 5 and 6, where it is shown that the accuracy of the GLC-2015 product is not much improved than the other products. It is advised that the authors quantify the area differences for each land cover type at multiple scales, including global, continental, national, and ecoregional scales. Also, the authors should provide more visual comparisons regarding each land cover type with current products, including global-scale data, national-scale data, and other prevalence-used data. The visual comparisons ought to be focused on various vegetation types and climatic zones. For instance, the Amur basin, the Tibetan Plateau, Canada, and coastal mangroves should be taken into account when comparing mapping results for Wetlands. With these comparisons, the authors can state that their product is more robust than other products regarding what land cover types in what regions.

2. Why not use national-scale land cover data (e.g., CLUD, CLCD, NLCD) as candidates if the authors have acknowledged their value in lines 756 to 762? National-scale land cover products with the participation of local experts are more accurate than global products and should therefore be considered for inclusion in the development of GLC-2015.

3. One of the motivations behind the development of global land use land cover data is the expectation of a more detailed classification scheme (e.g., GLC_FCS30's scheme). The authors may provide insights on how to meet this expectation with the proposed fusion method.

4. The format of the reference needs to be standardized.