

## Comment on **essd-2021-270**

Anonymous Referee #2

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Referee comment on "Multi-resolution dataset for photovoltaic panel segmentation from satellite and aerial imagery" by Hou Jiang et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2021-270-RC2>, 2021

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This research focused on validating deep learning as a tool to automatically extract photovoltaic panels from satellite and aerial imagery with various spatial resolutions. Using RGB bands from images, the study received a high accuracy in the classification and segmentation of PV panels, and the transferability of the models trained with different resolution samples was also discussed. Generally, the proposed approach was appropriate for the aim of this study. I have some concerns and suggestions.

1 – According to the classification system introduced in Table 1, the PV dataset introduced in this study may including different categories of PVs. However, in the result part, all the categories were classified as a whole. The authors may want to show the influence of different resolutions on classifying different categories of PVs, but the “classification system” used here may confuse. My suggestion is to change the term “classification system” in the title of Table 1.

2 – The names of segmentation networks in the manuscript should be checked. For example, “DeepLab v3+” was taken as “DeepLab v3” in Line. 189, Page. 11.

3 – This study gave suggestions on the selection of image resolutions for the classification of different PVs. The differences in the classification results of images with different resolutions may be related to the size of the target features and input samples, because the semantic segmentation networks are generally sensitive to the size, shape, and receptive fields. It may be interesting to give a quantified result on selecting image resolutions and input sample sizes for target features with different sizes in the future study.

4 – Authors used images with different resolutions to extract PVs in the study area. However, it may be interesting to see the classification results when combining multiscale

features from images with different resolutions. The fusion of multiscale features can be further discussed in the future.