Interactive comment on "ChinaCropPhen1km: A high-resolution crop phenological dataset for three staple crops in China during 2000–2015 based on LAI products" *by* Yuchuan Luo et al.

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Thanks for your careful review and constructive comments on our manuscript, and they really inspire us to improve the paper's quality. We have taken all your comments into account and responded positively to qualify our manuscript for a potential publication in the journal. The reviewer's comments are marked in black, while our detailed responses in blue. General Comments: This study provides a long-term phenology dataset for three staple crops in China at the 1km spatial resolution (ChinaCrop-Phen1km). Such dataset with high resolution and accuracy is very useful to the researchers focused on crop model, yield estimation, food security, impact evaluation

from climate change, and etc.. Meanwhile, the method proposed is robust and repeatable, and the authors' study provide a potential tool to apply into other regions and other crop systems. The manuscript is generally well-structured and well-written, and many findings are very interesting and very attractive to many potential readers. The manuscript falls well within the scope of the journal and provides a suitable contribution to ESSD. Therefore, I recommend it can be acceptable for publication with minor revision. The following specific comments should be noticed: 1) Line 39: "estimate" should be "estimated". Response: Many thanks for your careful check and valuable comment. We have followed your advice and it will be modified in the revised paper. 2) Line 53: Add "the" before "essential". Response: Thanks for your careful review. It will be modified in the revised paper (Line 54). 3) Line 69: "the single cropping system of spring maize in Northeast China" is not an example of "multi-cropped". Response: Thanks for your careful review. We have deleted "the single cropping system of spring maize in Northeast China" in Line 70. 4) Line 91: Replace "including" with "i.e.,". Response: Thanks for your careful review. It will be modified in the revised paper (Line 95). 5) Line 95: Replace "smooth" with "smoothing". Response: Many thanks for your careful check. We have corrected this mistake in the new edition. (Line 99). 6) Line 169: Singularize "crop pixels". Response: Thank you so much for your comments. We have followed your advice and revised it in the revised paper (Line 173). 7) Line 170: Add "using" before "RMSE". Response: Thank you for your comments. It will be modified in the revised paper (Line 174). 8) Line 189: Revise "the median columns of Fig.3" to detailed icon of specified figure Response: Thank you for your careful comments. We have specified the corresponding icon of figure (i.e., Fig. 3-b, f) in the revised paper (Line 193). 9) Line 196: In terms of "the uncertainty of GLASS LAI data", how such uncertainties may affect the generated dataset? Response: Thank you a lot for the insightful suggestion. We have followed your suggestion and added relevant contents into our manuscript (highlighted in "Track Changes" as suggested in the revised manuscript). In the Results and Discussion (Section 3.5), we added one paragraph (from Line 296 to 316 in the revised manuscript) for discussing the

uncertainties in the study. 10) Line 212: Delete "degrees". Response: Thank you for your careful comments. It will be modified in the revised paper (Line 216). 11) Line 217: Add "be" before "ignored". Response: Many thanks for your careful check. We have corrected this mistake in the new edition. (Line 221). 12) Line 274: V3 is not the key phenological stage for wheat, delete "V3" in parenthesis. Response: Thanks a lot for your careful comments. It will be modified in the revised paper (Line 278). 13) Line 282: Add "for" before "wheat". Response: Thanks for your careful check. We have followed your advice and revised it in the revised paper (Line 286).

Please also note the supplement to this comment:
https://www.earth-syst-sci-data-discuss.net/essd-2019-110/essd-2019-110-AC2-supplement.pdf

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