Interactive comment on "Assessments of land subsidence along Rizhao-Lankao High-speed Railway at Heze, China between 2015 and 2019 with Sentinel-1 data" *by* Chuanguang Zhu et al.

Anonymous Referee #1

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The paper addresses the problem of land subsidence along the Rizhao-Lankao high-speed railway at Heze for 4 years with adequate Sentinel-1 data. The method is not new, several articles are trying to identify land subsidence with the InSAR technic, but the quantity of the data and the results make the paper quite interesting. International standards are followed up and the assumptions are valid. The results are sufficient to support the conclusions and the references are adequate and appropriate enough to the subject of the paper. Some of the figures need to be fixed through not good visibility and some algorithms used need references. Also, maybe it's quite interesting to show results from a GNSS Time-series compared to InSAR results to validate the findings. The hypothesis that the ground subsidence is caused by both

the hydraulic head change and the seasonal groundwater variations and also that the time lag is induced by the groundwater level increases arising from the seasonal precipitation needs more data to be clear and a graph of temperature and humidity along with the other three graphs is missing.

Please also note the supplement to this comment:
https://www.nat-hazards-earth-syst-sci-discuss.net/nhess-2020-176/nhess-2020-176-RC1-supplement.pdf

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2020-176, 2020.