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Interactive comment on "Increasing soil carbon stocks in eight typical forests in China" *by* Jianxiao Zhu et al.

Anonymous Referee #1

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Zhu et al. explored an analysis of soil carbon pool in eight permanent plots across China (including primary and secondary forests, and two plantations) in 1990s, and again in 2010s. This resampling enabled them to measure SOC change and change rates, which shows these forest soils were significant carbon sink during the past two decades. The scientific question was quite straightforward, the methods were well established, and the conclusions were reliable and robust. Although the MS is well written, there remain a few minor issues to address (see short list below). but I think these should be straightforward.

L39. Forests have contributed more than half of these carbon (C) fluxes of terrestrial ecosystems. L46. the soil C pool typically has a longer turnover time and higher spatial variability compared to vegetation C pool. L71. SOC density (C stock per unit

area) of eight permanent forest sites... L183-184. Use "Four forest sites, eight forest plots" throughout the text. L236. The SOC accumulation rates were positively and significantly associated with annual litterfall and fallen log production. Delete "the above-ground dead organic C production", because only dead plant considered here. L311-333. It is precisely because the data of SOC change is rare. The authors summarized the carbon budget of all components of the forest ecosystem (biomass, soil, litter and dead wood). I suggest that a figure or table should be provided in SI to summarize these results here.

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