

Biogeosciences Discuss., author comment AC1  
<https://doi.org/10.5194/bg-2021-303-AC1>, 2022  
© Author(s) 2022. This work is distributed under  
the Creative Commons Attribution 4.0 License.



## Reply on RC1

Rui Sun et al.

---

Author comment on "Effects of tropical rainforest conversion to rubber plantation on soil quality in Hainan Island, China" by Rui Sun et al., Biogeosciences Discuss.,  
<https://doi.org/10.5194/bg-2021-303-AC1>, 2022

---

Frank Hagedorn

Associate Editor

Biogeosciences

January 5, 2022

Dear Dr. Hagedorn,

Thank you very much for your help in processing our manuscript bg-2021-303. Also we like to thank the anonymous reviewer for his/her valuable comments. Taking into account the comments that "...This study chose the second approach but the design does not to control for confounding variables...", we would like to point out that "The tropical rainforest, accounting for 17.3% of the island's area, is mainly distributed in the mountains in the south-central region at altitudes above 500 m. Rubber plantations are located in the lowlands surrounding the central mountainous area...", hence it is difficult to find similar study sites for tropical rainforest and rubber plantations on Hainan Island. In order to explore the contribution of land uses to soil quality variation on the island, structural equation model was used, and the results indicated that the land-use change (from rubber plantations to tropical rainforests) played the most significant positive role in the spatial variation of SQI, followed by the climate. Besides, taking into account the comments, we think the title of our manuscript could be revised to: "Soil quality assessment for tropical rainforests and rubber plantations on Hainan Island, China".

Sincerely,

Rui Sun