

EGU2020-5171, updated on 25 Oct 2020

<https://doi.org/10.5194/egusphere-egu2020-5171>

EGU General Assembly 2020

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## Vegetation and ocean feedbacks on the Asian climate response to the uplift of the Tibetan Plateau

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The growth of the Tibetan Plateau (TP) is one of the important forcings acting on the evolution of the Asian climate during the Cenozoic. However, whether vegetation and ocean feedbacks play a specific role in the Asian climate response to TP uplift remains unclear. Here we investigate this issue through a set of numerical experiments with the Community Earth System Model. The results indicate that vegetation and ocean feedbacks have important but different effects on the Asian climate change in association with TP uplift, which are intrinsically related to the adjustment of thermal structure. The vegetation feedback leads to excess annual precipitation in East China and South Asia and a weakening of the Asian winter monsoon winds. By comparison, the ocean feedback induces a deficit of annual precipitation particularly in most areas of the Bay of Bengal and the South China Sea and a weakening of the Asian summer and winter monsoon winds. These results highlight the importance of vegetation and ocean feedbacks and further facilitate a better understanding of the paleoclimatic response to the uplift of the TP.