



## **Transition II - III**

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In the second chapter, my colleagues and I showed that tree diversity increase soil microbial respiration by increasing microbial biomass rather than changing microbial taxonomic or functional diversity. Overall, these findings suggest a prevalence of microbial biomass over diversity in controlling soil carbon dynamics. Therefore, in my third chapter, I explored the abiotic and biotic environmental mediation of tree diversity effects on soil microbial biomass and soil carbon concentrations. In the third chapter, we adopted a whole-ecosystem approach of tree diversity effects on forests carbon cycling by considering several forest carbon pools such as tree biomass, litterfall, and soil carbon.