



资源与环境信息系统国家重点实验室

State Key Laboratory of Resources and
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The Current Status of Global Forest Carbon Sink and its Future Sustainability



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会领导层的亚洲女科学家, 曾担任美国政府碳循环科学计划领导小组成员, 2023年美国驻北京大使馆的科学研究员。目前担任 Journal of Geophysical Research: Biogeosciences 副主编, Ecological Applications、Ecosphere and Ecological Monographs 等多个国际期刊编委。

报告简介: For achieving net-zero greenhouse gas emissions by 2050, one of the most challenging elements is the need of “nature solutions” for large-scale “negative emissions” to compensate for the inability to eliminate all emissions from fossil fuels. As forests are the dominant component of the land carbon sink, we need to know how much atmospheric carbon the world’s forests have been sequestering, where it is stored, and whether recent trends are consistent with the desired strengthening of Earth’s land sink. In the recent published study (Pan et al., 2024, Nature 631, 563–569), an international forest carbon study group constructed a global record of forest inventory measurements from 1990 through 2019 based on millions of forest inventory plots across the world, and estimated global forest carbon stocks and sinks, and their changes over the last three decades for countries, regions and globe. The estimates of the forest land carbon sinks are largely independent of other modeling-based approaches and provide ground data-based benchmarks for complementing other top-down studies. Based on the observed changes in global forest carbon sinks, the study also made some suggestions for sustaining and strengthening valuable forest carbon sinks and other ecosystem services in the future via forest management approaches and relevant environmental policies.

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