Tropical trees maintain high carbon accumulation rates into old age
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To study the carbon accumulation of trees over the course of their lifetime, Köhl and colleagues analysed the tree growth patterns of 61 trees of three different species with age ranges of 84 to 255 years that grew naturally in the tropical forest of Suriname. The researchers then calculated the size of each tree above the ground based on these rings, and analysed how much carbon the tree accumulated over the course of its life.

The researchers found that the rates of growth and carbon accumulation of the trees varied significantly more throughout their lifetime compared to trees in managed forests, although as expected younger trees generally stored less carbon, and older trees stored more. In contrast, the trees studied in this natural tropical forest also maintained high carbon accumulation rates toward the end of their lives, accumulating 39-50% of their final carbon stock in the last quarter of their lifetimes.

The researchers suggest that the longevity and sustained growth of old trees expand a forest's ability to store carbon. These findings could provide evidence against the logging of old-growth tropical forests.


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