

Small trees make big impact in climate change fight

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Credit: Florida International University

When it comes to trees storing carbon, don't underestimate the little guys, according to new study.

Trees absorb [carbon dioxide](#) from the atmosphere and store it in their roots and leaves. Florida International University ecologist Jason Vleminckx and a team of researchers found small trees can store carbon for an average of 74 years, whereas big trees can store it for an average of 54 to 57 years. That's because the small ones grow slower and live longer than the big ones.

"Small trees in the understory get limited sunlight. This actually makes them very efficient and competitive," said Vleminckx, a postdoctoral researcher in FIU's Department of Biological Sciences. "The study highlights the importance of considering forests as a whole when assessing carbon stocks."

Vleminckx was part of an international research team who conducted the study. He collected data and co-authored the study.

Assessments on how much carbon dioxide has been taken out of the atmosphere and stored in a forest have traditionally focused on big trees because they're easier to see and measure, Vleminckx said. Although forests are made up mostly of big trees, they suffer the most during droughts. The understory where small trees live is also more biodiverse than the canopy where [big trees](#) live. Small trees, therefore, offer long-term stability in moving carbon through the atmosphere. Accounting for all the [trees](#) in a [forest](#) is critical for accurately predicting carbon cycling and effective conservation management, according to the researchers.

The study was led by the Royal Museum for Central Africa, an ethnography and natural history museum in Belgium. It was recently published in *Nature Plants*.

More information: Wannes Hubau et al. The persistence of carbon in the African forest understory, *Nature Plants* (2019). [DOI: 10.1038/s41477-018-0316-5](#)

Provided by Florida International University

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