Older Forests Resist Climate Change Better

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In life, it seems that younger is always better but there are cases where that is not true. A new study is revealing that older forests can resist climate change better than younger ones.

Older is better

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"Our finding that essential services are better protected against climate change by older forests is a milestone in the debate on how to prepare our forests for the uncertain environmental conditions ahead."

The work looked at field data from 18,500 forest plots. The regions were diverse and ranged from Minnesota to Maine, and Manitoba to Nova Scotia.

Younger is more vulnerable

The researchers then further pinpointed priority regions for forest climate adaption efforts. They found that younger forests east and southeast of the Great Lakes were more vulnerable to climate change, showing projected declines in carbon storage, timber and biodiversity.

"Our study identifies opportunities to make forest management more adaptive to global change," says William Keeton, forestry professor in UVM's Rubenstein School and Gund Institute.

"This could include enhancing older forest conditions on landscapes within reserves, for example, and using extended cutting cycles and restorative forestry practices in working forests."

If you are wondering what older exactly means for trees and forests the answer is over the age of 150 years. But what makes older forests so resilient?

It turns out that age makes these habitats more structurally complex. The scientists described forest with trees growing at multiple heights and larger canopy gaps.

"This research presents new and entirely novel findings that are sure to push the needle in our understanding of forest dynamics," added Keeton.

"The types of ecosystem services and biodiversity provided on forested landscapes today are likely to change dramatically into the future, both as forests age and our climate changes -- a message relevant to anyone interested in forests."

Now the team is focused on developing strategies aimed at enhancing the representation of older forest conditions at landscape scales.

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