

Book examines how trees change as they age and grow: What do these clues tell us?

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Knowing how trees grow and how they age may be key to further understanding how trees react to a warmer climate, for instance, and other changes. Little is known, however, about the cause of the physical changes associated with tree growth.

"Although much research has been done on how the structure and physiological behavior of [trees](#) change as they increase in size," says research ecologist Frederick (Rick) Meinzer, "structure and physiology are often studied separately in relation to size and age." Meinzer, a scientist with the Forest Service's [Pacific Northwest Research Station](#), and his colleagues examine the structure and physiology of trees through a series of scholarly papers compiled in the book, "Size- and Age-Related Changes in Tree Structure and Function," published recently by Springer Science and Business Media.

The book includes chapters highlighting the implications of these size- and age-related changes for commercial forestry plantations with shortened rotations and for predicting how current and future forests will respond to climate and other environmental changes. "One of the book's chapters discusses how older, larger, trees are less responsive than younger trees to changing environmental variables such as elevated CO₂. Another chapter shows that larger trees are better buffered against drought than smaller trees," adds Meinzer.

"Much research remains to be done on how structure and function change over the lifespan of trees," says Meinzer, "For example, little is

known about the structure and physiological traits that determine the survival of tree seedlings during their first year of growth. Yet traits exhibited at this crucial stage of tree growth are expected to be major determinants of shifts in [tree species](#) distributions as the climate changes."

More information: To order a copy of the book visit:
[www.springer.com/life+sciences ... ok/978-94-007-1241-6](http://www.springer.com/life+sciences...ok/978-94-007-1241-6)

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