

# Some trees can't survive sea level rise

August 22 2018, by Evelyn S. Gonzalez

---



Credit: Florida International University

Sea level rise is killing bald cypress trees, according to an FIU study.

As sea levels rise, high salinity can sometimes cause plants to absorb too many nutrients from the soil and, at other times, not enough nutrients. This phenomenon—known as nutrient stress—is potent enough to kill

bald cypress [trees](#), said FIU ecologist Lu Zhai, who led the study.

Zhai and the research team also found some waxmyrtle shrubs are affected by water stress, where high salinity limits the water supply going into a plant's roots. The different responses of the two species may be due to how their leaves interact with climate, as well as how the plant converts nitrogen in the atmosphere for growth and development. Knowing how different species respond to sea level rise can inform conservation and management strategies tailored a species.

"Different [species](#) can be killed by salinity in different ways," said Zhai, a scientist in FIU's Southeast Environmental Research Center. "Adding nutrients to areas where bald cypress trees are dying can help mitigate the impacts of [salinity](#)."

Bald cypress trees are commonly found throughout the southeast United States, including Big Cypress National Preserve. Waxmyrtle is a popular ornamental shrub used for landscaping and habitat restoration and is a source of honey. It is found throughout the U.S. and the Caribbean.

Zhai and the research team examined bald cypress trees and waxmyrtle shrubs growing along the Waccamaw River in North Carolina and South Carolina. A temperate wetland, research done there can inform research, management and conversation in a tropical wetland, including the Florida Everglades, Zhai said.

The findings were published in *Environmental and Experimental Botany*.

**More information:** Lu Zhai et al. Growth stress response to sea level rise in species with contrasting functional traits: A case study in tidal freshwater forested wetlands, *Environmental and Experimental Botany* (2018). [DOI: 10.1016/j.envexpbot.2018.07.023](https://doi.org/10.1016/j.envexpbot.2018.07.023)

Provided by Florida International University

Citation: Some trees can't survive sea level rise (2018, August 22) retrieved 23 June 2024 from <https://phys.org/news/2018-08-trees-survive-sea.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.