

# South Florida mangroves are on a death march, marking a new era for Earth

April 30 2018, by Chrystian Tejedor

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Credit: Florida International University

Mangroves running for their lives may have just hit the end of the road.

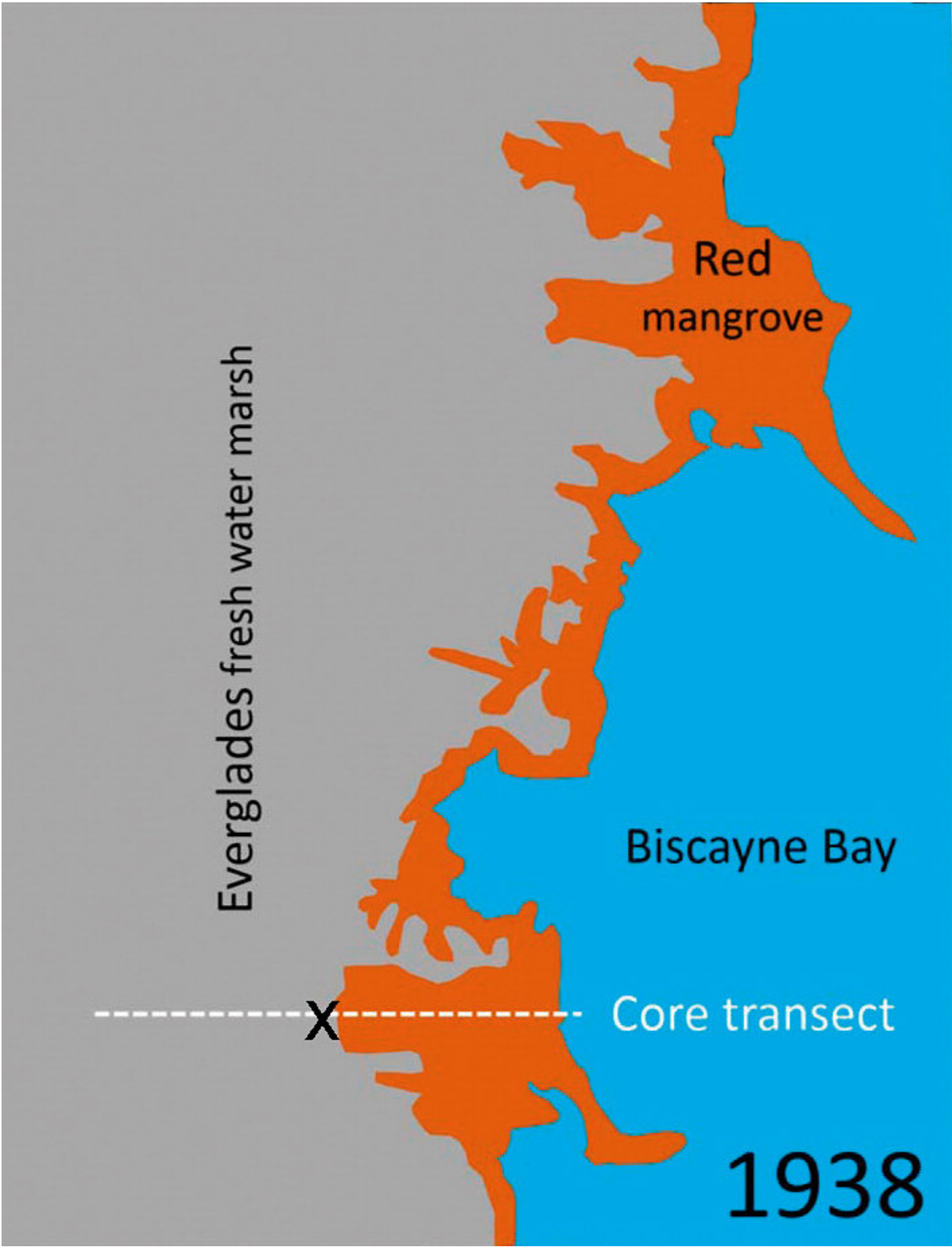
The problem is so clear, it might be the first real sign Earth has entered a

new geological era.

Using a combination of aerial photographs from the 1930s, modern satellite imagery and ground sediment samples, Florida International University Sea Level Solutions Center researchers Randall W. Parkinson and John F. Meeder tracked the mangroves' westward retreat from the coastal Everglades. Now, their backs are to the wall – literally. Having reached the L-31E levee in southeast Miami-Dade County, there's nowhere left for mangroves in that part of the Everglades to flee.

"You can see migration westward has stopped right where that levee is," Parkinson said. "In many cases there no space for them to migrate into—there's development or some feature that blocks their migration. They're done. That's it."

Parkinson estimates that in 30 years, the land now occupied by mangroves could be open water. For people living nearby, it would mean the loss of one of the natural barriers to storm surge and saltwater intrusion. For the rest of the Everglades, their survival might hinge solely on ongoing restoration efforts.

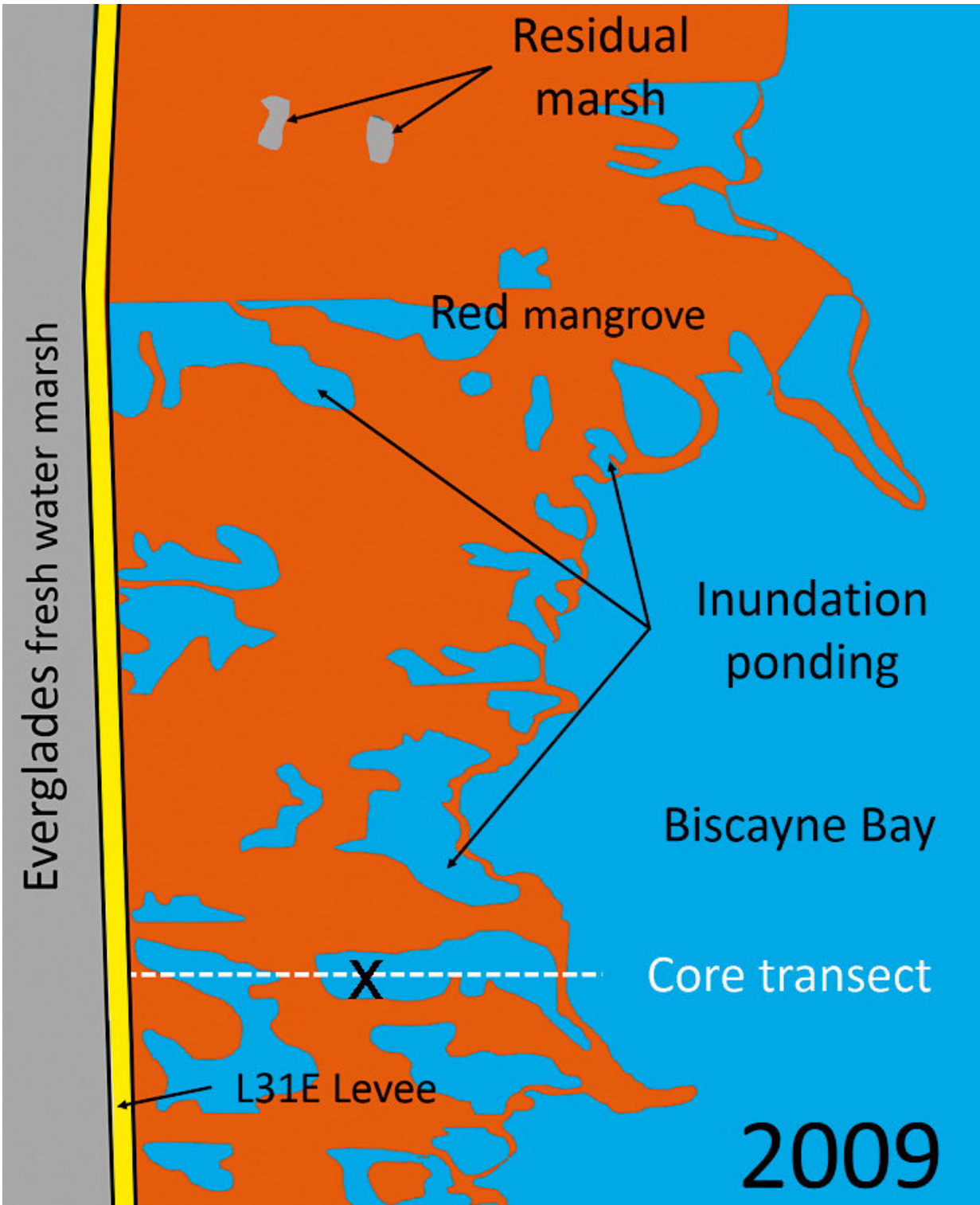


Mangroves in 1938. Credit: Florida International University

Scientists have seen mangroves make the same desperate moves elsewhere on the planet in response to climate change caused by people. These migrations are so clear and pervasive, they argue it's a sign the earth has entered a new geological era—one that is marked by man's emergence as the dominant influence on the planet. Other researchers have proposed that this new era – the Anthropocene – should coincide with the beginning of the Industrial Revolution or the dropping of the first atomic bomb, among others.

Not so fast in light of the obvious reactions by mangroves, said Parkinson.





Mangroves in 2009. Credit: Florida International University

"Epochs are marked by geological events that are global, instantaneous, and easily recognized," he said. " So, what we have proposed is reasonable and justified."

The research findings were recently published in the *Journal of Coastal Research*.

**More information:** John F. Meeder et al. SE Saline Everglades Transgressive Sedimentation in Response to Historic Acceleration in Sea-Level Rise: A Viable Marker for the Base of the Anthropocene?, *Journal of Coastal Research* (2017). [DOI: 10.2112/JCOASTRES-D-17-00031.1](https://doi.org/10.2112/JCOASTRES-D-17-00031.1)

Provided by Florida International University

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