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science for a changing world

Mangroves on the Move

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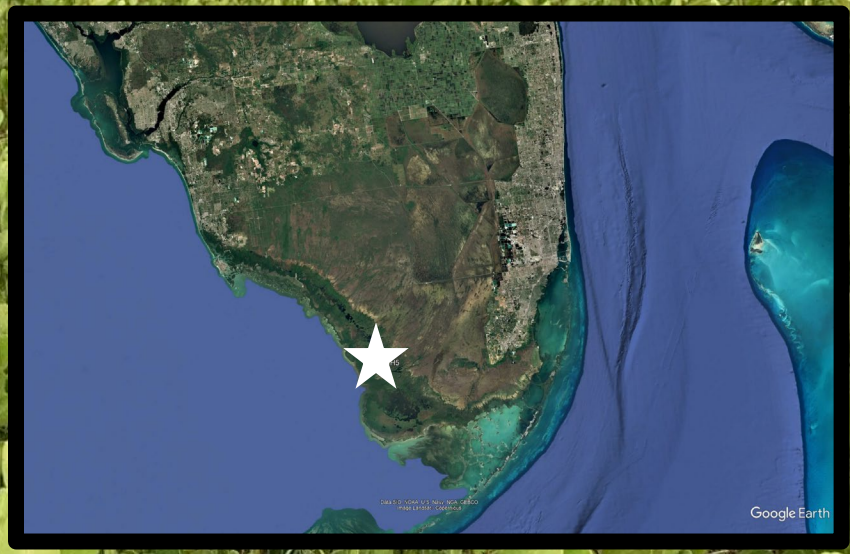
Harney River, Everglades National Park

2021

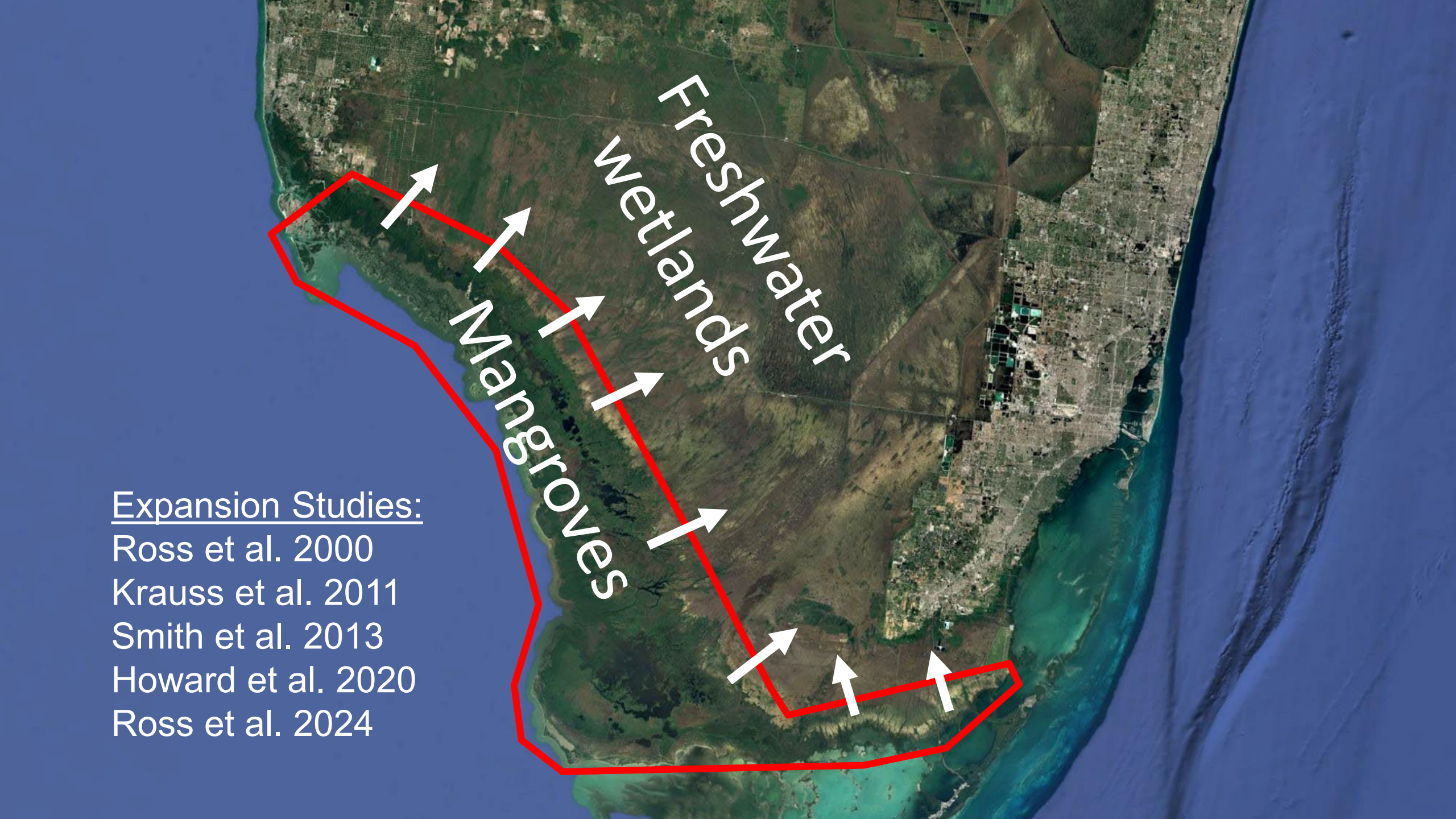



2017


2019


2021


December 2024



Expansion Studies:
Ross et al. 2000
Krauss et al. 2011
Smith et al. 2013
Howard et al. 2020
Ross et al. 2024

Long-distance dispersal

+

Warming winters

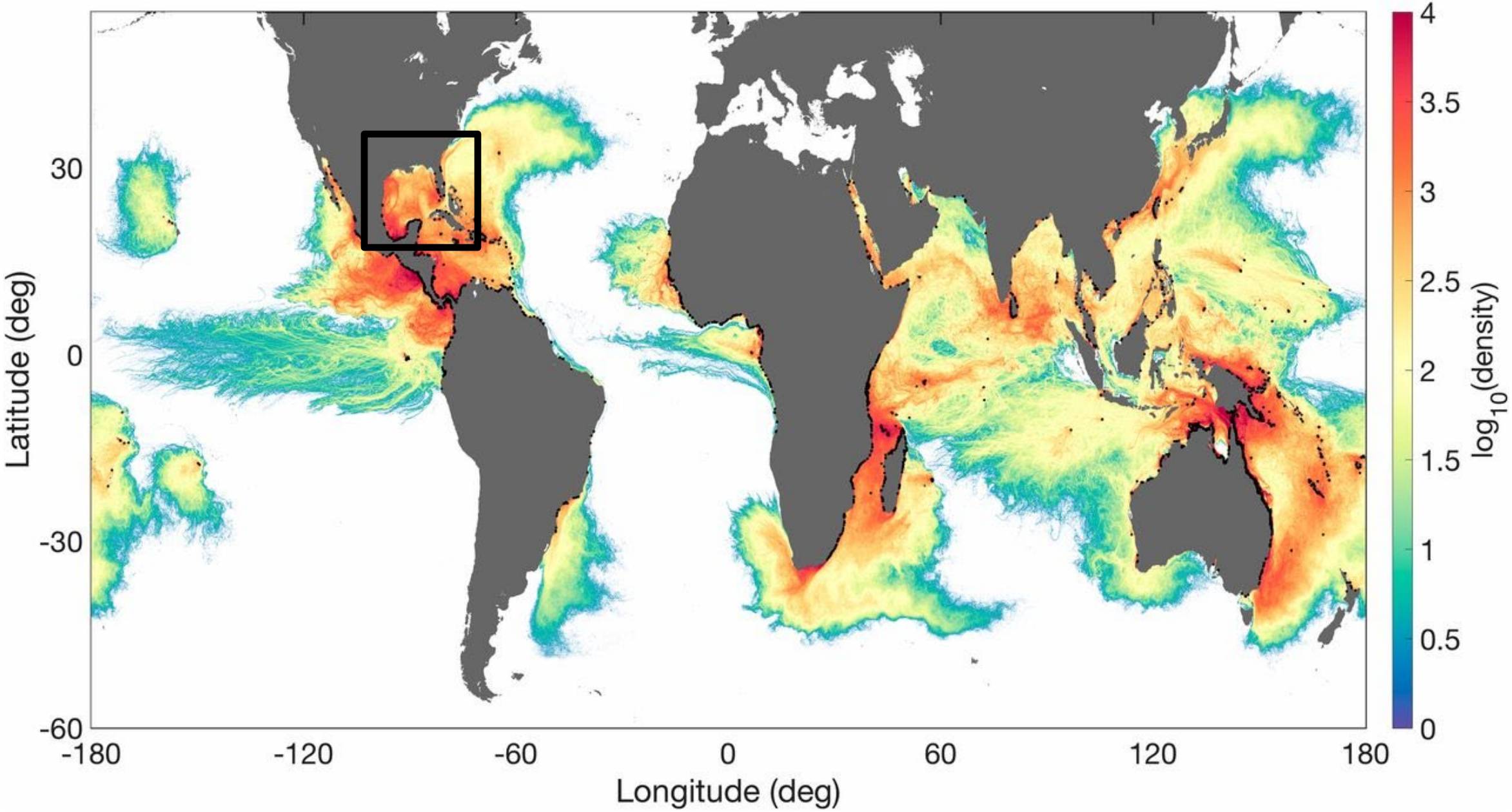
Sea-level rise

=

Mangroves on the move

Red mangrove propagules in Alabama (2015)

Mangrove propagule density (Van der Stocken et al. 2018, *PNAS*)



Long-distance dispersal

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Warming winters

Sea-level rise

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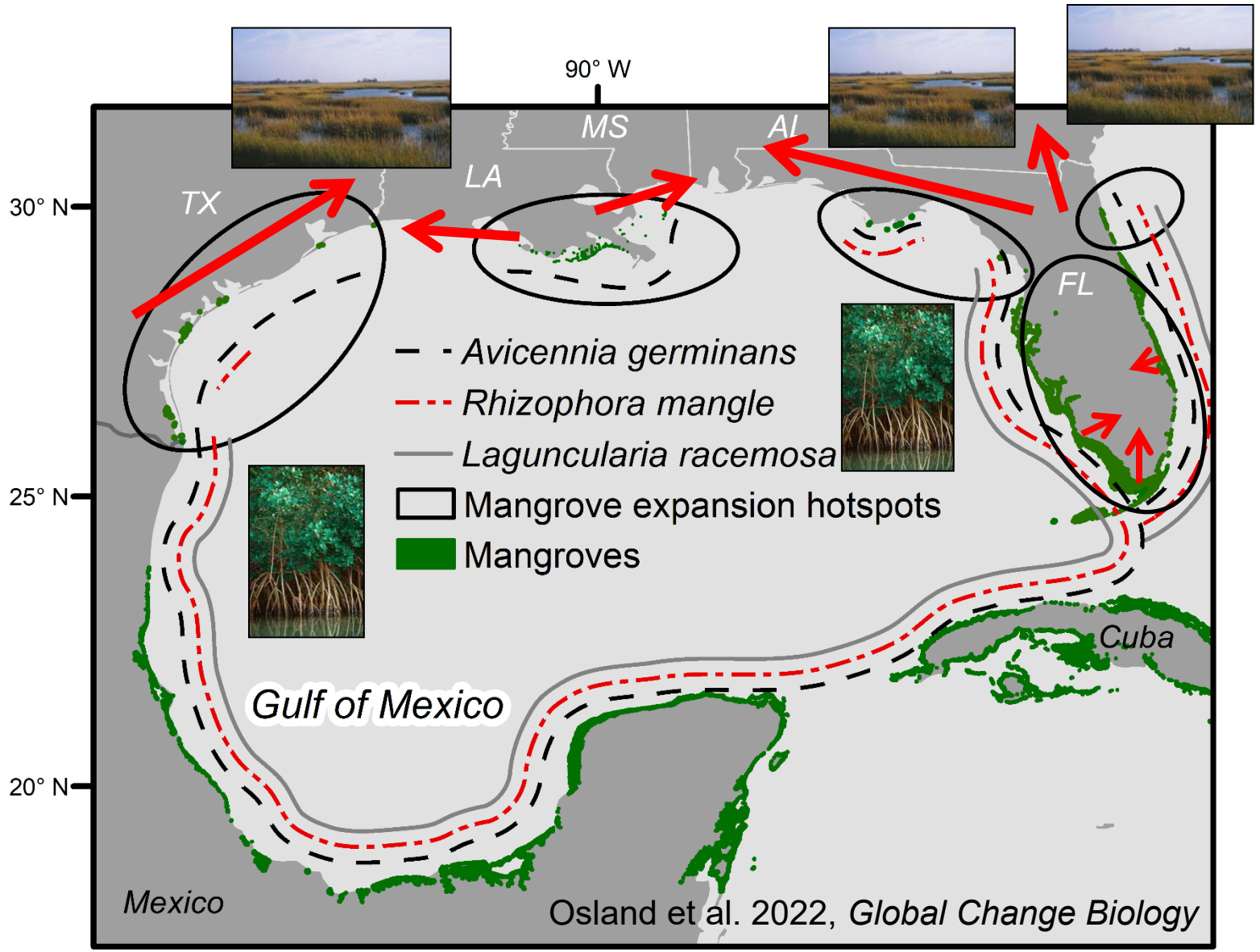
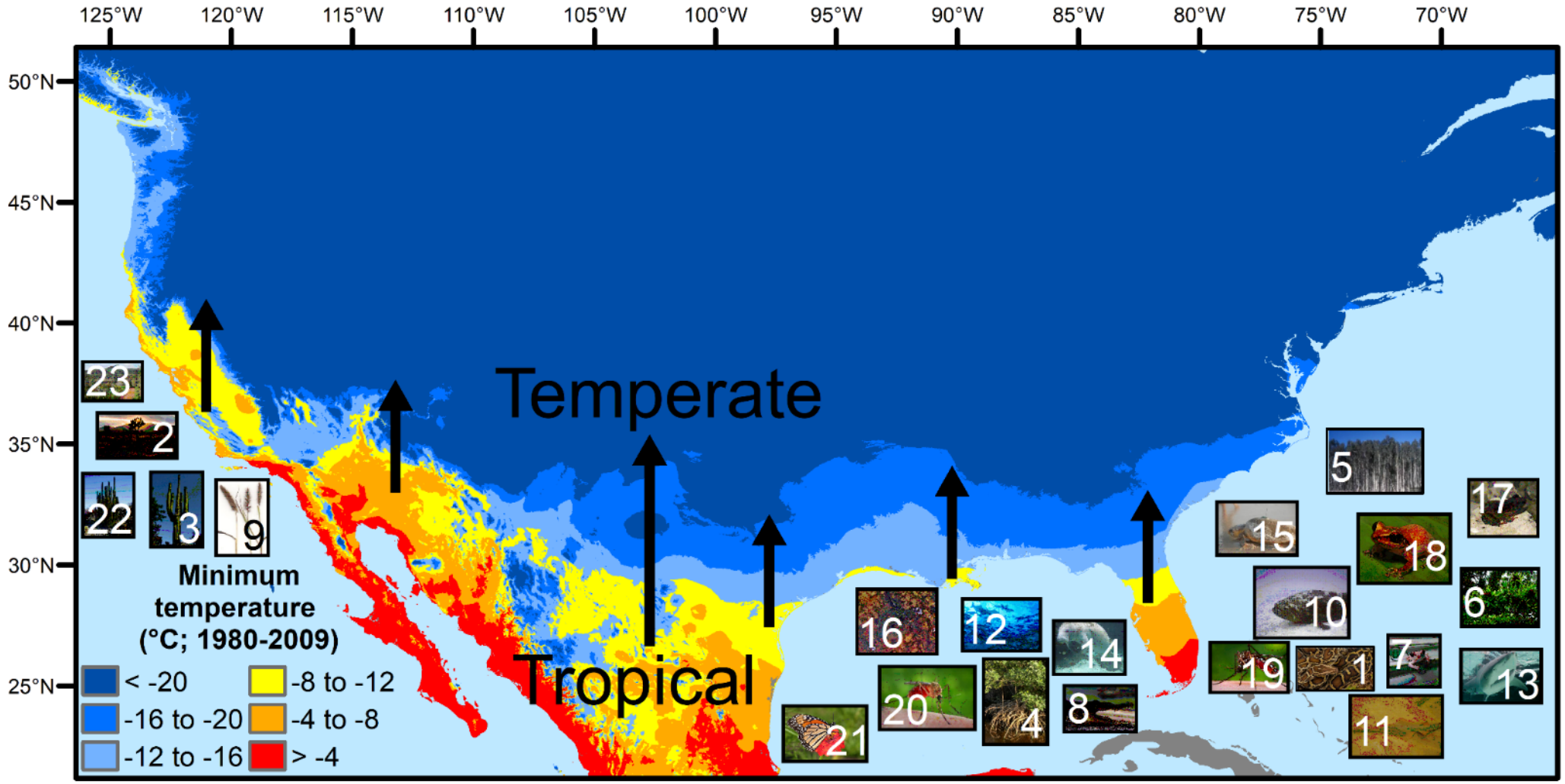
Mangroves on the move

Warming Winters = Mangroves on the Move



Tropicalization



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Osland et al. 2021, *Global Change Biology*

Long-distance dispersal

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Warming winters

Sea-level rise

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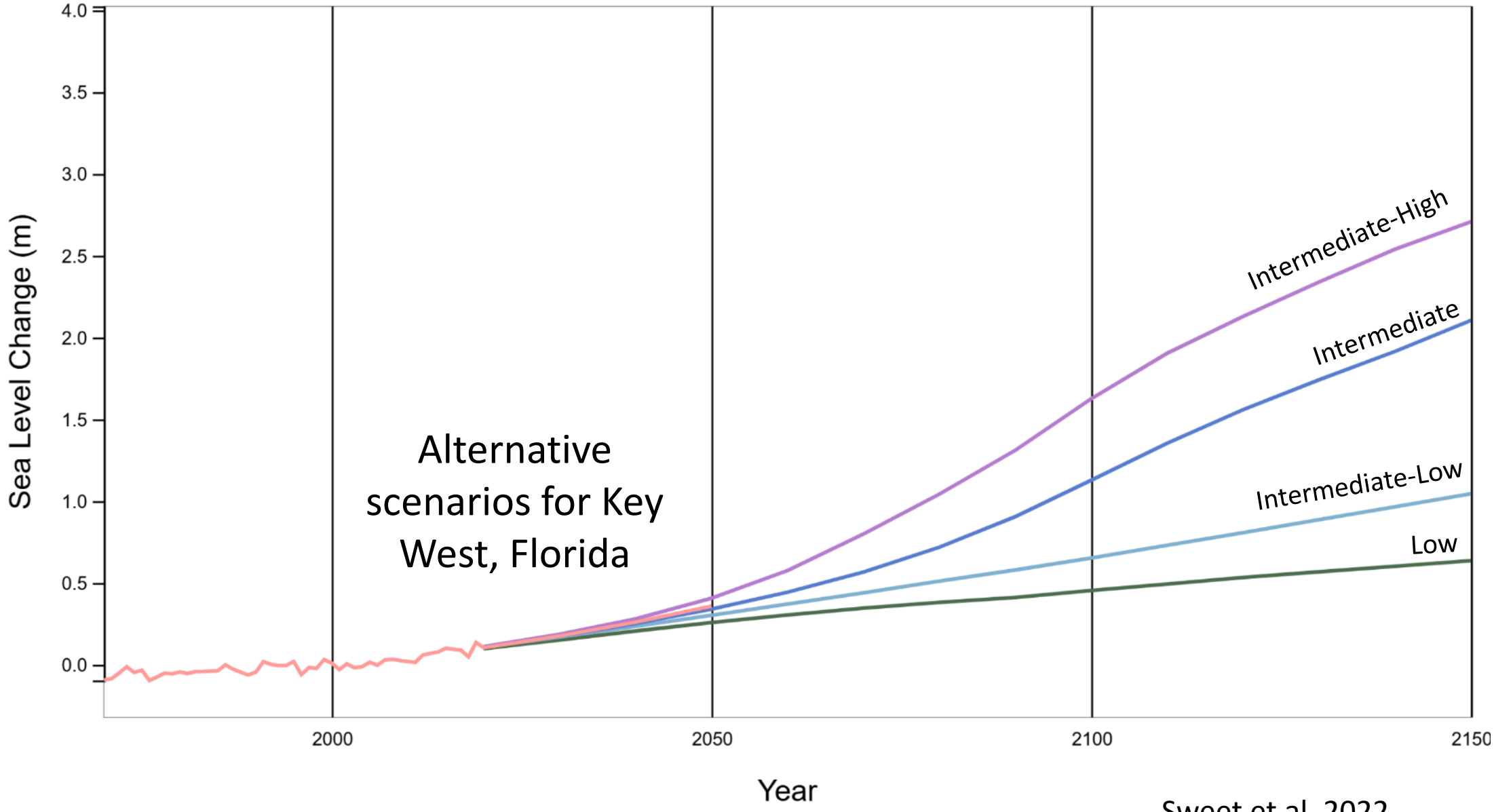
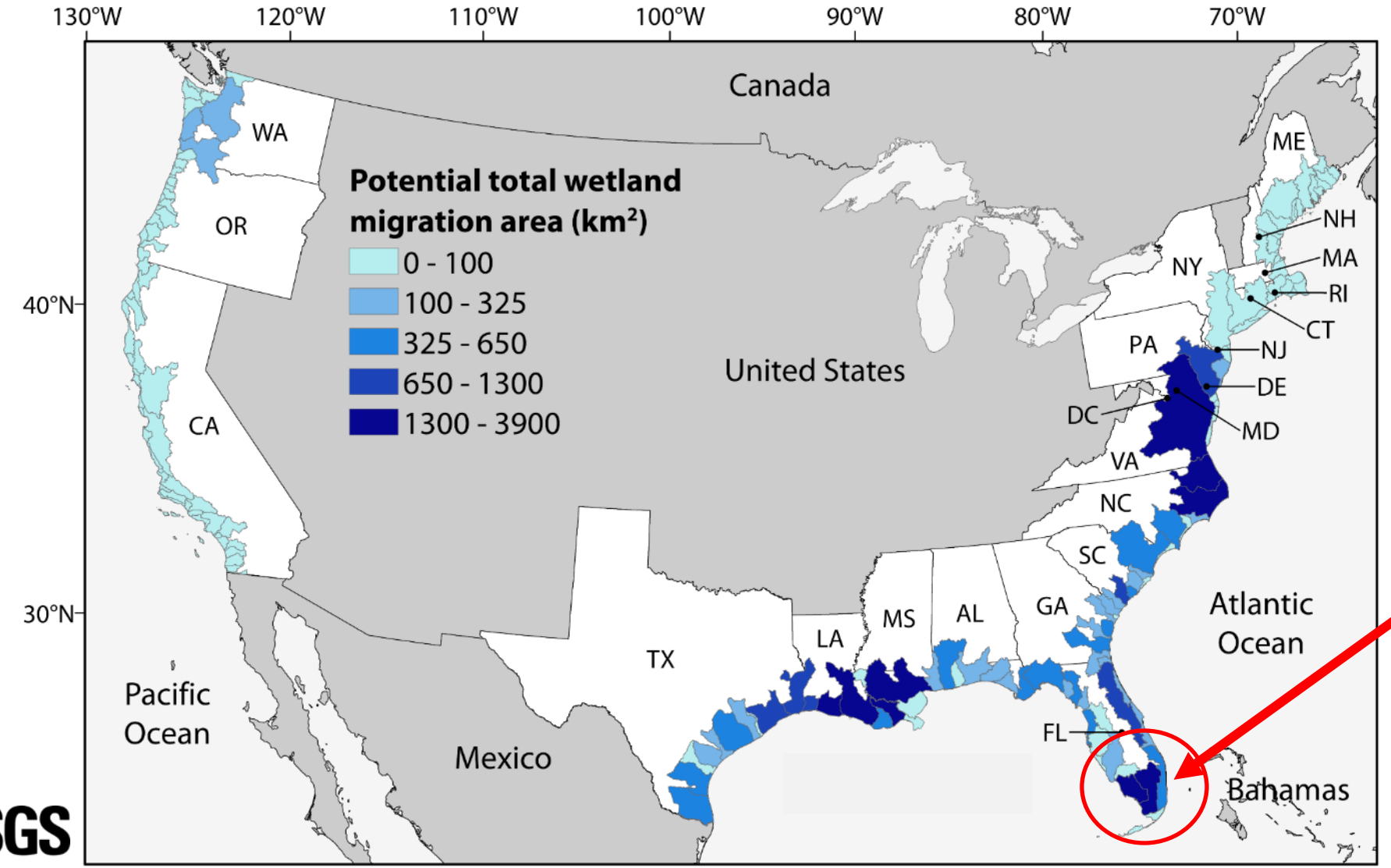
Mangroves on the move

Sea-level rise is expected to transform the Everglades



Sweet et al. 2022

Wetland Migration



High potential for mangrove expansion

Osland et al. 2022, *Science Advances*

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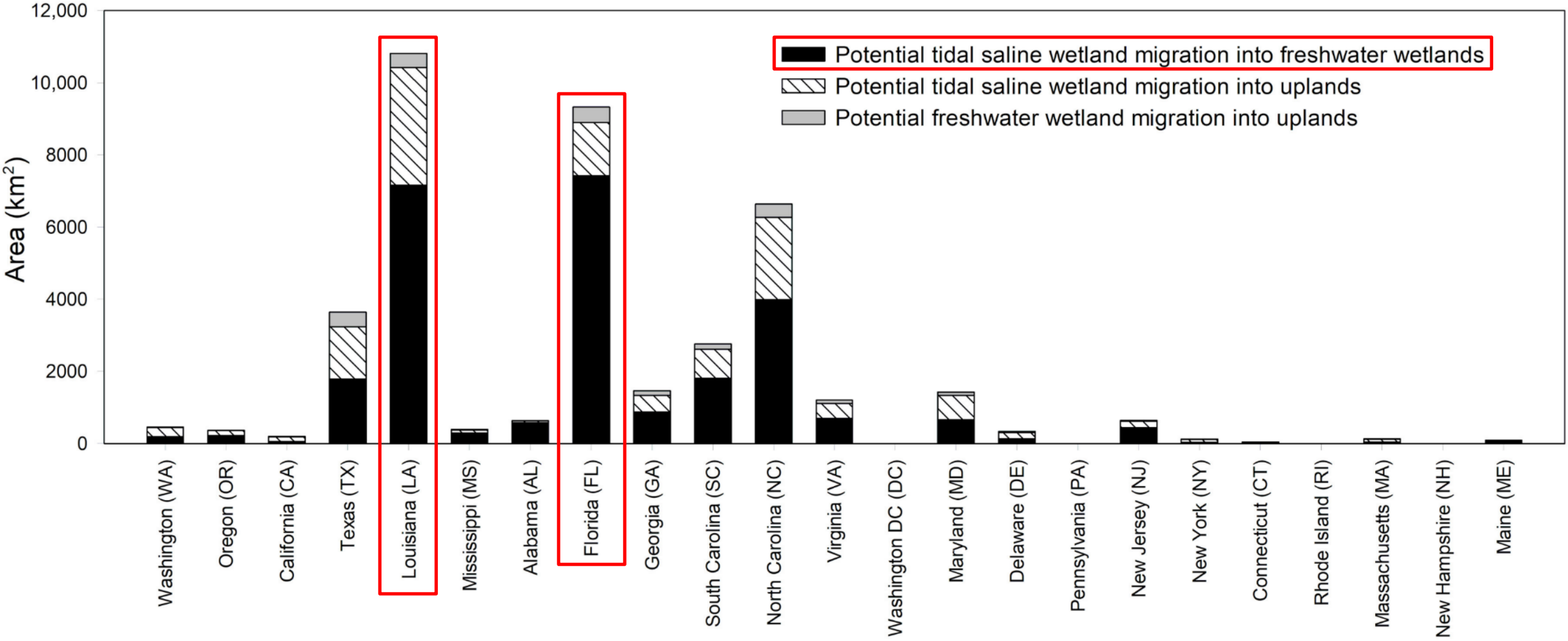
Wetland Migration



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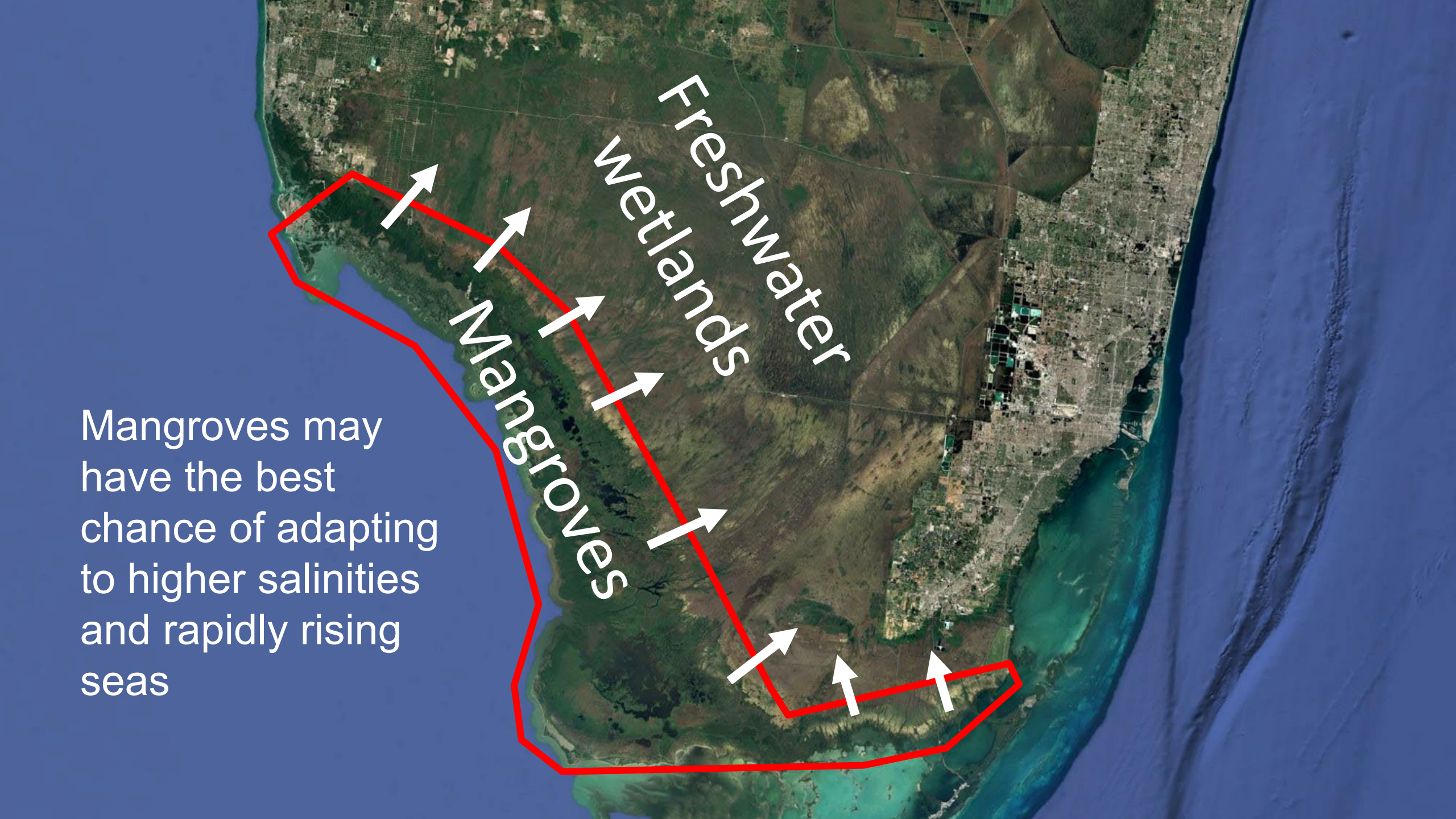
Osland et al. 2022,
Science Advances

So, what?

Mangrove expansion produces tradeoffs (some good, some bad)

Osland et al. 2022,
Global Change Biology



Mangroves may have the best chance of adapting to higher salinities and rapidly rising seas


2024