

Landscape Conservation Design for Enhancing the Adaptive Capacity of Coastal Wetlands in the Face of Sea-Level Rise and Coastal Development

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From providing critical habitats and improving water quality, to reducing the impacts from floods and protecting coastlines, coastal wetlands provide many valuable benefits to humans and wildlife. Due to accelerated rates of sea-level rise and human development of coastlines, these geographical areas are undergoing many alterations. In effect, this leads to much uncertainty surrounding the future of coastal landscapes across the globe.

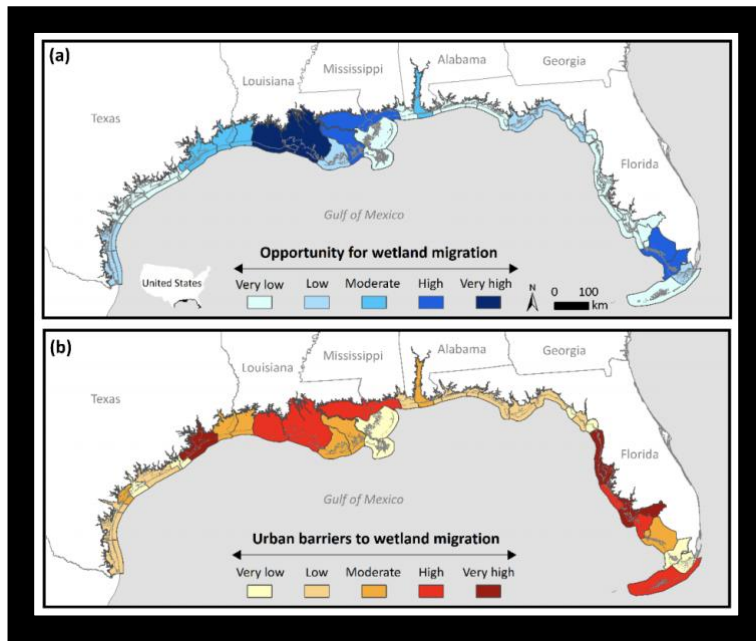


Figure 1 For a 1-m sea-level rise scenario, the estuary-specific: (a) area available for landward migration of tidal saline wetlands; and (b) area of low-lying urban lands that are expected to prevent landward migration of tidal saline wetlands.

With such uncertainty surrounding these coastal wetlands and their future, it's important for coastal environmental managers to develop conservation strategies that will make these ecosystems more resilient to change. One example of an adaptive strategy that decision-makers could implement would be ensuring that even in the face of sea-level rise there is space available for coastal wetlands and their respective inhabitants to migrate inland.

In one recent study, researchers identified areas where coastal wetlands may move inland along the northern Gulf of Mexico, one of the most wetland-rich and sea-level rise sensitive regions of the world. Identifying and protecting these 'backup' areas could be beneficial if sea-level rise were to push the boundaries of existing wetlands inland. This study also resulted in conservation-designed products that outline possible migration routes for wetlands. Products like these, as well as the general knowledge of the potential changes that could occur in these areas, are instrumental in allowing both stakeholders and decision makers to better assess and respond to a changing coastline where coastal wetlands are critical to many aspects of human and animal life.

For more information, click [here](#).