ECOLOGICAL AND ECONOMIC IMPACTS OF LAND USE AND CLIMATE CHANGE ON COASTAL FOOD WEBS AND FISHERIES

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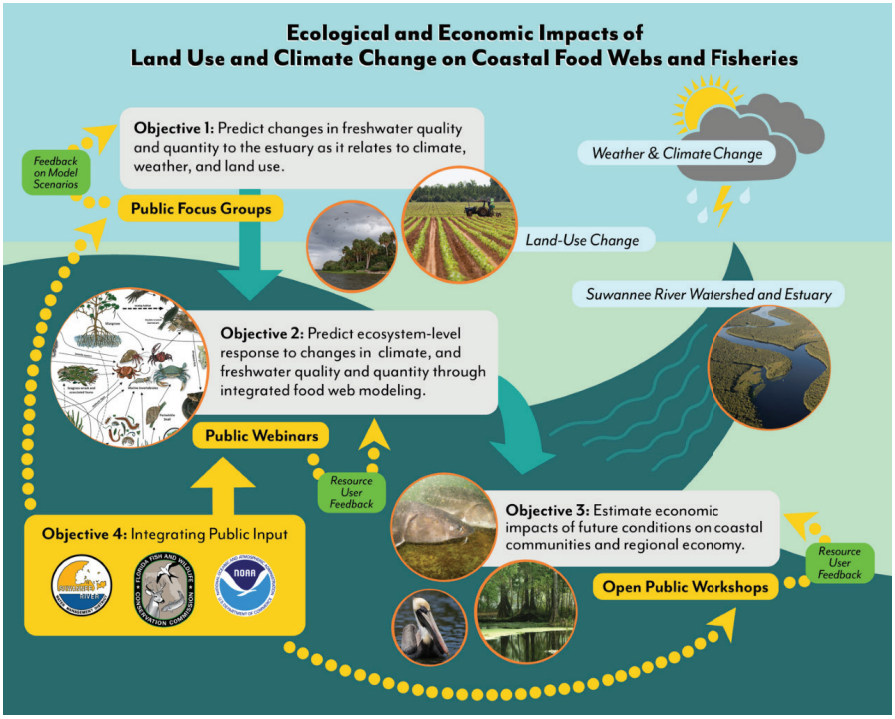
PROJECT OVERVIEW

The Suwannee River estuary supports several imperiled species, multimillion-dollar fisheries, aquaculture, and tourism in Florida's Nature Coast. This project will assess how past, present, and future climate and land use scenarios influence the quality of natural resources in the Suwannee River estuary. The team will develop a predictive model to evaluate different watershed management actions, based on water quality and nutrient flow. These predictions, combined with food web modelling, will project how changes in freshwater quality and quantity will influence fish and shellfish populations. Results from the watershed and food web models will also be combined with survey data to evaluate the economic impacts of different land use and climate scenarios.



PROJECT OBJECTIVES

OBJECTIVE 1

Develop a landscape-level watershed model of the Suwannee River basin to quantify how changes in land/water use and future climate/weather patterns will influence freshwater quality & quantity.

OBJECTIVE 2

Develop a trophic-dynamic food web model to explore how changes in freshwater quality/quantity and changing species distributions will influence fish & shellfish populations.

OBJECTIVE 3

Develop stated-preference economic surveys to evaluate the economic implications of each future scenario on ecosystem services and coastal communities.

OBJECTIVE 4

Integrate results with social science and management actions using a set of public focus groups, webinars, and a public workshop.

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