



NExUS Ongoing Projects and Activities Thu Jul 19 21:04:31 EDT 2018

Name	Coastal Wetland Dynamics and Wildlife Populations: Modeling the Effects of Sea Level Rise and Landscape Change
Description	Climate change (i.e., global warming) and the resulting rise in sea level have prompted international concern about changes in coastal ecosystems. As a result, there is a pressing need to understand how sea level rise may affect coastal marshes and a variety of associated obligate vertebrate species. This project will address aspects of the U.S. Fish and Wildlife Service's (FWS) Strategic Habitat Conservation (SHC) initiative by linking landscape [marsh] response to sea level rise with habitat relationship models for a variety of wildlife species. First, we intend to develop hierarchical models of animal survey data that assess the importance of local biophysical factors with respect to animal distribution and abundance. These models will then be linked to outputs from models simulating the response of intertidal wetland complexes in the northeast to predicted sea level rise. We will also evaluate the uncertainty surrounding predictions from "downscaled" projections, and whether available data on species habitat relationships are sufficient for meaningful predictions of future species-habitat relationships. Anticipated products will allow the Service and its partners to strategically plan future conservation efforts and sustain populations of priority species.
Category	- Climate-change Specific Projects - Research
Sector	- Natural Ecosystems - Biota
Focus Area	- Coasts and Climate Resilience (including sea-level rise) - Conservation/ Restoration of Sensitive Species and Habitats
Region	- Regional Or State -- New England -- Mid-Atlantic
Status	- Ongoing
Lead Agencies	USGS Patuxent Wildlife Research Center
Contacts	Allan O'Connell, Research Wildlife Biologist, U.S. Geological Survey, aoconnell@usgs.gov ; Glenn Guntenspergen, Research Ecologist, U.S. Geological Survey, Glenn_Guntenspergen@usgs.gov