



NExUS Ongoing Projects and Activities Fri Apr 20 14:37:16 EDT 2018

Name	Forecast Effects of Sea level Rise on Habitat of Piping Plovers and Identify Responsive Conservation Strategies
Description	Sea level rise and associated changes in storm magnitude and frequency are major issues of concern associated with climate change in the North Atlantic LCC. Piping plovers ( <i>Charadrius melodus</i> ) respond rapidly to change and depend on these low-lying coastal areas throughout their life cycle, making them excellent indicators of climate change effects. This project will develop predictions of how piping plover breeding habitat will change as a result of sea level rise and altered storminess, using a coupled risk-assessment model. The first portion of the model assesses changes to coastal geomorphology using dynamic sea level rise predictions and is linked to the second portion of the model that assesses plover habitat selection. The first task will utilize the vast data sets documenting plover habitat preference for, and utilization of, topographic, hydrodynamic, and vegetation regimes. This task will develop a plover model that is quantitatively tied to measurable physical variables including elevation, slope, frequency of inundation and overwash, and amount of vegetation. Future scenarios will be modeled in order to analyze the efficacy of existing and alternate conservation strategies against plausible sea level and other future climate variables.
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
Status	- Ongoing
Timelines	Start Date 2010; End Date December 2013
Lead Agencies	Virginia Tech; North Atlantic Landscape Conservation Cooperative
Contacts	Sarah Karpanty, Assistant Professor, Virginia Tech, karpanty@vt.edu