Blue carbon mapping for six mid-Atlantic states

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Background

These data are the state-specific results from spatial models of the effects of sea level rise on coastal zone habitats and carbon fluxes for six mid-Atlantic states. The regional models, which are available at https://research.repository.duke.edu/concern/datasets/n009w316w?locale=en, were rerun for each state with state-specific model parameters requested by partners from each state.

Input data and models

The models and input data required are included in the regional dataset. State-specific model adjustments are summarized in the table below.

State	SLR scenarios	Adjustments to regional model
Delaware	RCP 8.5, 17th and 83rd percentiles (Callahan et al. 2017)	Agricultural land available for marsh migration
Maryland	RCP 2.6, RCP 4.5, and RCP 8.5, all 50th percentile (Boesch et al. 2018)	Agricultural land available for marsh migration
New Jersey	Moderate emissions scenario, 83% chance of exceedance and 17% chance of exceedance (Kopp et al. 2019)	Agricultural land and projected future development available for marsh migration
New York	25th, 50th, and 75th percentiles (NY State Climate Change Regulatory Revisions 2016)	None
North Carolina	Intermediate-low and intermediate scenarios (Sweet et al. 2017)	None
Virginia	Intermediate and intermediate-high scenarios (Sweet et al. 2017)	Agricultural land and projected future development available for marsh migration. Constant rate of seagrass loss (4% annual).

Output datasets

The output datasets for each state include a set of projected habitat rasters for each sea level rise scenario (one raster for each timestep in the scenario) and a projected carbon flux raster for each sea level rise scenario. Carbon rasters represent the total net carbon flux (positive = sequestration, negative = emissions) from each pixel over the entire analysis period (2010-2124), in units of metric tons CO2e/hectare x 10 (to reduce file size).

- Projected habitat rasters: [state abbreviation]_HabProj_[SLR scenario]_[timestep].tif
- Projected carbon flux rasters: [state abbreviation]_CFlux_[SLR scenario]_MThax10.tif