

Real Estate Values, Tax Revenues, and Climate Change-Induced Retreat from Flood Zones

Project Description

Inundation events have been a fact of life for years along the coastline of Connecticut, and rising sea levels are putting greater pressure to develop strategies for more coastal resiliency. One tool for reducing vulnerability is shoreline retreat, accomplished by buying flood-prone homes and returning the land to natural cover. This project will estimate some possible avenues to revenue recovery post-buy out by examining possible neighborhood effects.

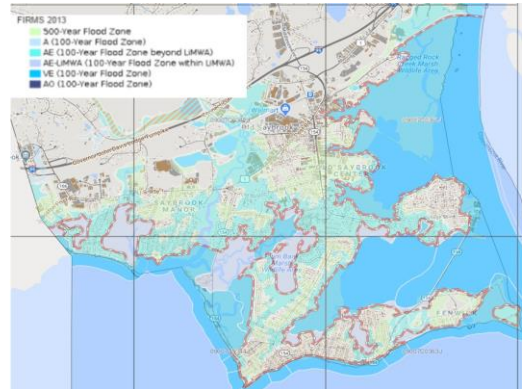


Figure: Flood zone designations, Old Saybrook, CT

Project Findings

The housing market analysis yields additional insights that can be helpful in informing the likely success of other resilience strategies. After employing extensive measures to control for confounding influences, we estimate an average price discount of about **2.5%** from being in the 100-year flood zone. In comparison, coast front homes see a 40% price premium and homes across the street from the coast see a 27% premium. In a series of simulations, we evaluate the change in view for neighboring parcels as well as these premiums and see that shifts in neighborhood amenities might account for up to 14% of tax losses from removals

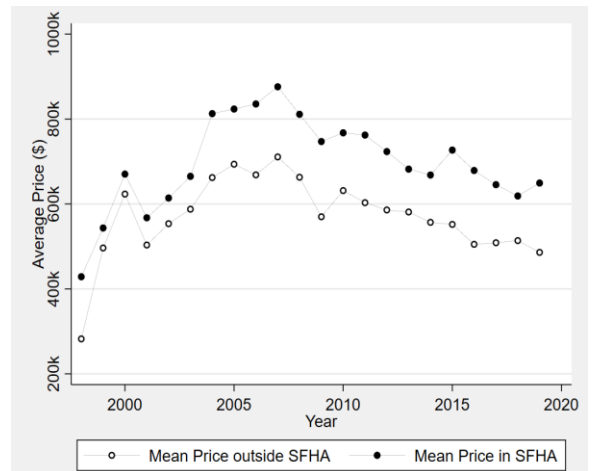


Figure: Mean Housing Prices within and outside the Special Flood Hazard Area (SFHA)

Research Gaps and Recommendations

This project produced credible estimates of the effect of a variety of shoreline amenities on housing prices and estimates useful in simulating retreat outcomes. One major shortcoming deals with a popular adaptation choice available to homeowners, elevating the structure.

- Our inability to identify elevated houses among those sold during our study period compromises the interpretation of SFHA as an indicator of flood risk.
- Elevating a structure above ground level lowers both the structure's flood risk and its flood insurance premium.
- With such data, we could estimate the size of any price premium elevated houses command on the market.
- It would also allow us to investigate the circumstances (location, type of house, and type of homeowner) where the structural elevation of existing homes most often occurs.

Further, the lower valued homes in the floodplain experience a greater loss suggesting the need to examine FEMA rules pertaining to renovation and structural compliance. Specifically, the 50% rule and the assigned look back period.