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| Name | 3D Visualization of Sea Level Rise: Illustrating the Potential to Exacerbate Storm Damage in Falmouth, Massachusetts |
| Description | <p>Woods Hole Sea Grant worked with Applied Science Associates to generate three dimensional simulations of sea level rise and flood event inundation in an effort to enhance hazard mitigation planning, emergency response, and public awareness. Specifically, this project visualizes various levels of sea level rise and/or storm surge flooding, in Falmouth on Cape Cod. The Geographic Information Systems (GIS) based flooding simulations incorporate the highest currently available MassGIS (DEM), local LIDAR datasets, and 3D measurements. The team utilized sophisticated inundation analysis and modeling tools as well as knowledge and expertise in mapping and analyzing flood potential from storms and sea level rise. Storm surge level was extracted from the National Hurricane Center's SLOSH (Sea, Lake and Overland Surges from Hurricanes) model. The MOM (Maximum of Maximum Envelope of Water) results were used for the chosen hurricane category. Using the MOM results ensures that the worst case storm surge at every location along the coastline is being considered. The SLOSH model outputs provide a spatially varying depiction of storm surge flooding along the coast. The team made use of a custom processing tool to propagate these variable results inland onto the elevation data.</p> <p>The images represent multiple sea level changes both with and without storm surge (Category 2 Hurricane) flooding and allow users to leverage the Google Earth framework for navigation to areas of interest.</p> |
| Type | <ul style="list-style-type: none"> - PRODUCTS: Projections (intra-annual to multi-decadal, including SLR and model down-scaling) - PRODUCTS: Viewers and Web-based Tools |
| Sector | - Infrastructure |
| Focus Area | - Coasts and Climate Resilience (including sea-level rise) |
| Region | - Regional Or State -- New England |
| Lead Agencies | Woods Hole Sea Grant |
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