

Pennsylvania Coastal Resiliency



Plans, Regulations, and Ordinances

Recommendations

Include flood projections and depths caused by sea level rise and storm surge in municipal plans and ordinances. Places where future flooding can be mentioned include but are not limited to the municipal master plan, all-hazards mitigation plan, emergency response plan, capital improvements plan, zoning ordinance, subdivision and land development ordinance, and stormwater management ordinance and plan.

Begin a community-wide planning process to prepare for the long-term effects of flooding at time scales that extend beyond the standard 20- or 25-year planning horizon. This process will help the community prepare for the gradual, but steadily increasing, rates of sea level rise expected in the ensuing decades. Actions may include decisions to avoid long-term capital investments in areas that may be affected by sea level rise in 30 or 50 years.

Create a post-disaster redevelopment plan. Using future flood maps and other analyses, a municipality can create a plan that enables it to identify and prioritize what it rebuilds after a storm. The plan can identify redevelopment opportunities outside of flood hazard areas, and identify opportunities to retrofit structures in hazard prone areas or relocate those structures or infrastructure outside of hazard-prone areas.

Examples and Resources

Example: Worcester County, Maryland created a [comprehensive plan](#) that incorporates coastal hazards throughout the entire document.

Resource: Florida Division of Emergency Management, [post-disaster redevelopment planning toolbox](#).

Example: Hillsborough County, Florida, [Post-Disaster Redevelopment Plan](#), 2010.

Example: Cedar Rapids, Iowa, [flood recovery plan set](#).
Example of Implementation: An ordinance enabling a short-term moratorium on building after a disaster: Town of Duck, North Carolina, [North Carolina Code of Ordinances](#); [“Chapter 152: Rebuilding and Reconstruction; Damaging Storms.”](#)

Recommendations

Use the municipal zoning ordinance to protect community assets against flooding. Zoning ordinances can be used to regulate setbacks from rivers and streams, increase base flood elevations for buildings, and set requirements for stormwater management. In particular, a community can create a zoning overlay in floodplain areas, or update the existing zoning code, to require new construction, renovations, and/or flood-sensitive building systems to be elevated above predicted flood heights from sea level rise and/or storms.

Update building codes that regulate the design, construction, and landscaping of new construction and renovation to improve the ability of structures in hazard-prone areas to withstand hazard events.

Update reference flood elevations for elevating existing structures or constructing new structures. The base flood elevations that municipalities currently use may become insufficient to protect buildings against future floods. Using future flood heights as a reference, municipalities should determine if a one-foot freeboard above base flood elevation (or higher if necessary) would be more beneficial in protecting properties, when matched against the costs of complying with that elevation.

Seek Certification in the National Flood Insurance Program (NFIP) Community Rating System (CRS). The CRS program uses flood insurance rate reductions as an incentive to encourage communities to proactively protect property from flood damage. Participating communities can lower insurance premiums by as much as 45 percent, depending on the proactive actions they take. Municipalities can receive credit for 19 types of activities that fall into four major categories: public information, mapping and regulations, flood damage reduction, and flood preparation.

Examples and Resources

Example: East Nantmeal Township, Pennsylvania, [Conservation Overlay Districts](#), most notably the flood hazard overlay district.

Resource: FEMA, [overview of CRS](#).

Published to the web: December 21, 2017
Amy Verbofsky, Senior Planner, DVRPC
Melissa Andrews, Environmental Planner, DVRPC