



COASTAL RESILIENCY STATUS REPORT

HRPDC Regional Environmental Committee
October 1, 2020

Overview

Design Standards

Legislative Proposals

State Initiatives

Background



OCTOBER 2018

HRPDC adopts regional sea level rise scenarios

FEBRUARY 2020

VDOT Structure and Bridge Division adopts "Consideration of Climate Change and Coastal Storms"

MAY 2020

Virginia Beach considering new Public Works Design Standards with sea level rise and precipitation projections

THE PROBLEM

- Design standards are based on historic data
- Recent research and analysis suggests that environmental conditions have changed since the major guidance documents
- Climate research suggests that conditions will continue to change into the future
- Therefore, we are building in a way that will add to our existing and future flooding challenges



Adopting higher standards will be more expensive,
but keeping the same standards will increase risk.
Either way, there is a cost.

Resilient Design Guidelines

PROJECTIONS OF FUTURE CONDITIONS

Sea level rise - adopted October 2018

1.5' for 2020-2050

3.0' for 2050-2080

4.5' for 2080-2100

Precipitation - *DRAFT*

RECOMMENDATIONS FOR POLICIES AND REGULATIONS

Stormwater Management - *DRAFT*

Design storm frequencies

Design tailwater elevations

Joint probability events

Floodplain Management - *DRAFT*

Floodplain mapping

Design Flood Elevations

Draft Recommendation: Precipitation

Localities should adopt local standards reflecting a 20% increase in the 24-hour duration rainfall above local conditions in NOAA Atlas 14

Draft Recommendation: Design Storms

Localities should adopt higher standards for larger projects that reflect larger contributions to runoff and additional capacity for mitigation

Draft Recommendations: Tailwater

Localities should adopt design tailwater elevations for individual watersheds

Localities should incorporate sea level rise and non-linearity into design tailwater elevations

Draft Recommendation: Compound Flooding

**Hampton Roads
localities should adopt
multiple joint
probability design
storms that include
both precipitation and
tailwater conditions**

Format: policy statement
and standard

Draft Recommendations: Floodplain Mapping

Localities should regulate development in the 0.2% annual chance floodplain

Localities should incorporate future probabilistic floodplains with sea level rise into their comprehensive plans and floodplain ordinances

Draft Recommendations: Design Flood Elevations

Localities should adopt a minimum freeboard of 2' above the base flood elevation (3' for critical structures)

Localities should adopt design flood elevations based on location, expected lifespan, and criticality

Format: policy statement and standard

Legislative Proposals

Creating a Commonwealth Flooding Board to oversee state resilience planning and implementation

Updating precipitation data products to reflect new data and climate forecasts

Requiring disclosure of flood damage and vulnerability in real estate transactions

Adding resiliency to SMART SCALE criteria to encourage transportation projects to incorporate adaptation

State Initiatives

Guidance for making CBPA properties more resilient

Coastal Zone Management Program -
Project of Special Merit with DEQ,
VIMS, and VCPC

Starts October 1, 2020 (~18 months)

Virginia Coastal Resilience Master Plan
Framework

Secretary of Natural Resources Office
May be announced in October 2020