

C-RiSe: Climate Risk in the Seacoast Vulnerability Assessment for Dover (2017)

Summary:

The C-RiSe vulnerability assessment documents the potential impacts from sea-level rise and coastal storm surge to infrastructure, critical facilities, transportation systems, and natural resources for the areas subject to tidal influence (i.e., downstream of the Cochecho Mills Dam). Three sea-level rise scenarios – 1.7', 4.0' and 6.3' – were used to evaluate impacts with and without coastal storm surge (the areas flooded by a 100-year/1% chance storm event).

Keywords:

- Vulnerability Assessment
- Sea Level Rise
- Coastal Storm Surge
- Infrastructure
- Transportation
- Natural Resources
- Critical Facilities
- Historic Structures

Key Points:

- Dover can expect to see impacts from sea-level rise along the Bellamy River; the Piscataqua River; at the confluence of the Cochecho River and the Salmon Falls River; and along the shores of Little Bay.
- Impacts include:
 - critical facilities, such as water and sewer pipes, transmission lines, seven (7) pump stations, and two (2) dams
 - several transportation assets, including evacuation routes on Routes 16 and 4
 - residential homes on Spur Road, Boston Harbor Road/Dover Point Road, and Wentworth Terrace
- Current floodplains provide moderate relief from flooding due to sea-level rise.
- Over 500 acres of stratified drift identified as important aquifer recharge areas may experience future issues as a result of groundwater intrusion.

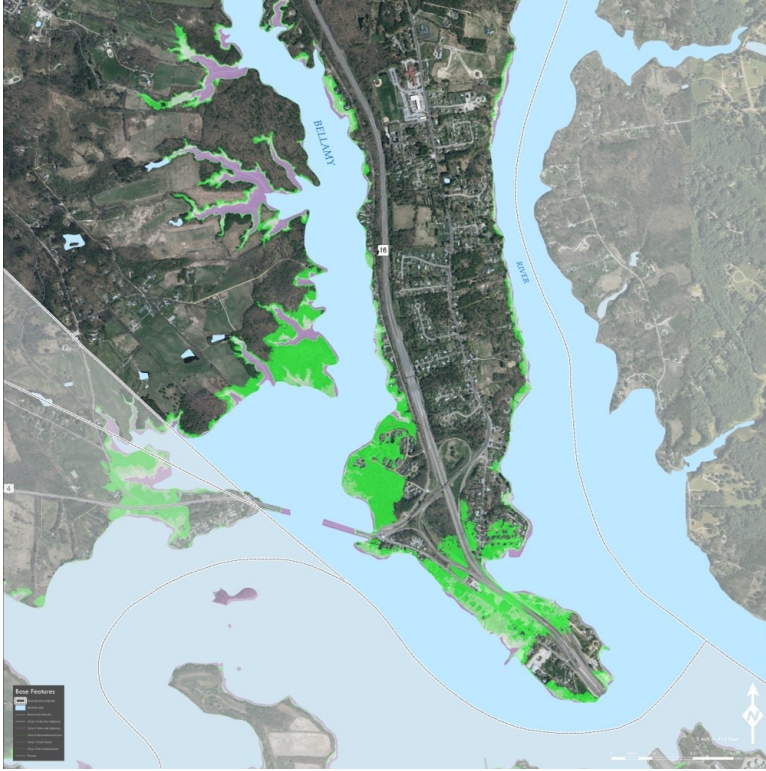
Suggested Uses:

Consult the recommendations for ways to strengthen municipal policy and plans to increase Dover's resilience to flooding associated with sea-level rise and coastal storm surge (pp. 19-20). The vulnerability assessment report and map set can be consulted to identify specific areas in greatest need of infrastructure planning and protection, zoning ordinance revisions, hazard mitigation planning and preparedness, or master plan updates.

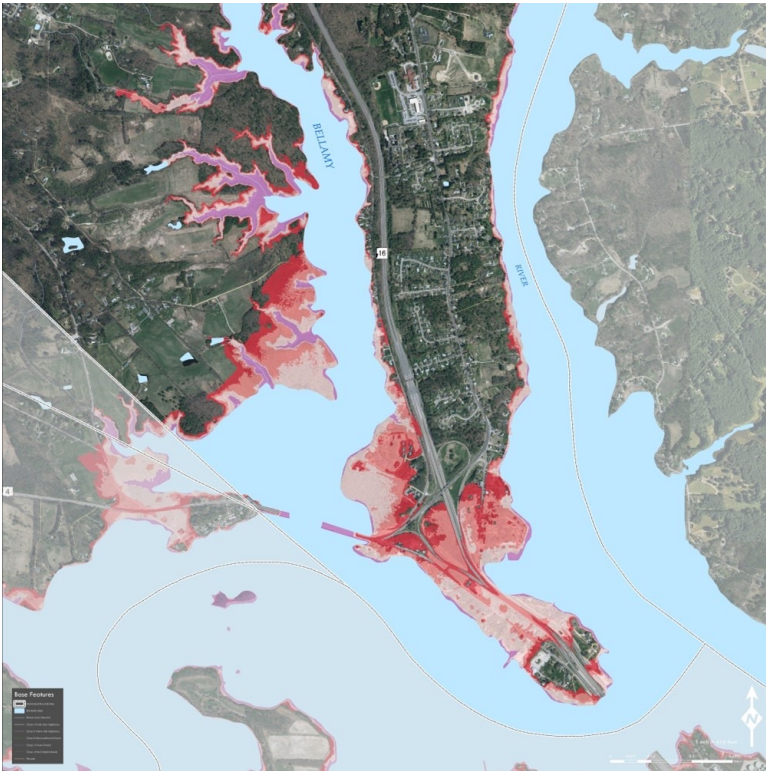


Example Maps: Extent of Projected Tidal Flooding

Sea Level Rise Scenarios 1.7ft, 4.0ft, and 6.3ft



Sea Level Rise Scenarios 1.7ft, 4.0ft, and 6.3ft + storm surge



Legend

Extent of Sea-Level Rise 1.7'



Extent of Sea-Level Rise 4.0'



Extent of Sea-Level Rise 6.3'



Approximate Mean High High Water Level



Applicability

The purpose of this vulnerability assessment report is to provide a broad overview of the potential risk and vulnerability of state, municipal and public assets as a result of projected changes in sea levels and coastal storm surge. This report should be used for preliminary and general planning purposes only, not for parcel level or site specific analyses.

Legend

Extent of Sea-Level Rise of 1.7' with Storm Surge



Extent of Sea-Level Rise of 4.0' with Storm Surge



Extent of Sea-Level Rise of 6.3' with Storm Surge



Approximate Mean High High Water Level



Report Authors: Strafford Regional Planning Commission
Photo Credits: Perry Plummer; Former Fire Chief, City of Dover

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New Hampshire
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