



The Climate Risk in the Seacoast: Assessing Vulnerability of Municipal Assets and Resources to Climate Change (C-RiSe) project provides maps and assessments of flood impacts to infrastructure and natural resources in the coastal Great Bay region associated with projected increases in storm surge, sea level, and precipitation.

WATER RESOURCES: TOWN OF EXETER

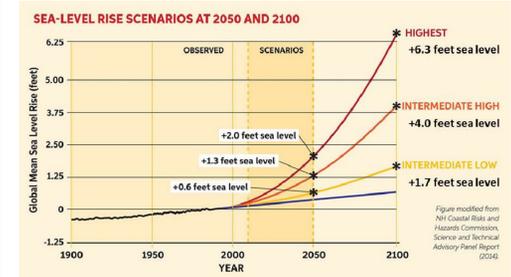
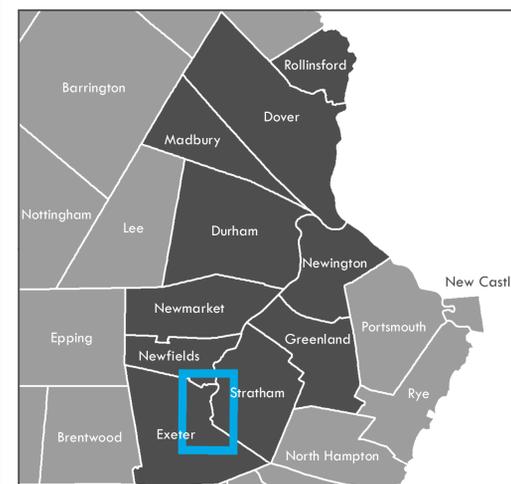
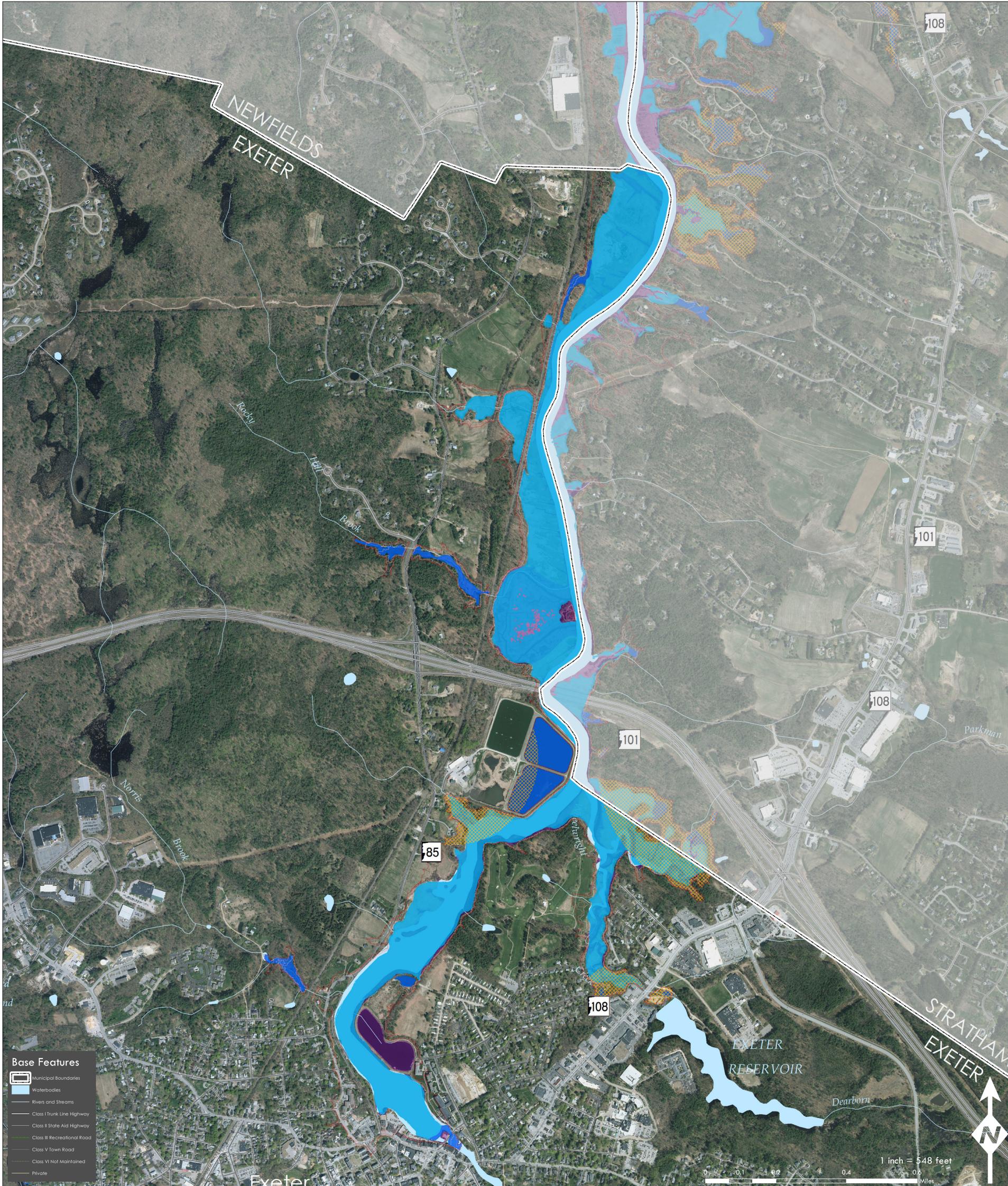
Extend of Projected Tidal Flooding
Sea-Level Rise + Storm Surge 1.7', 4.0', 6.3'

SLR 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

Impact Legend

- Freshwater Wetlands
- Estuarine and Marine Wetlands
- Stratified Drift Aquifers
- Wellhead Protection Areas



Sea-Level Rise Scenarios
Please note that the sea-level rise scenarios used in this assessment were derived from the Wake, 2011 report (refer to table of values below from this report). These scenarios were selected prior to the release of the Science and Technical Advisory Panel Report to the N.H. Coastal Risks & Hazards Commission, in August, 2014 [1]. While slightly different than the scenarios cited in that report, they yield coverage estimates that are within the mapping margin of error.

[1] Wake, C.F., Kintner, P., Huber, M., Knott, K., and Stimpson, M. (2014) Sea-Level Rise, Storm Surges, and Extreme Precipitation in Coastal New Hampshire: Analysis of Past and Projected Future Trends, prepared by the Science and Technical Advisory Panel (STAP) for the New Hampshire Coastal Risks and Hazards Commission.

	2050		2100	
	Lower	Higher	Lower	Higher
Current Elevation of MHHW ^{a,b}	4.4	4.4	4.4	4.4
100-Year Flood Height	6.8	6.8	6.8	6.8
Subsidence	0.0	0.0	0.0	0.0
Eustatic SLR	1.0	1.7	2.5	6.3
Total Stillwater Elevation^{c,c}	12.2	12.9	13.7	17.5

a - NAVD: North American Vertical Datum of 1988
b - MHHW: Mean Higher High Water at Fort Point, NH
c - Total Stillwater Elevation may not equal total of components due to rounding.
Based on the statistical analysis presented in this report.
Wake, C.F., Knott, K., Huber, M., Knott, K., Stimpson, M., & Stimpson, M. (2014) Climate Change in the Seacoast/Coastal Region: Past, Present, and Future. Carbon Solutions New England Report for the Great Bay New Hampshire Seacoast.

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Data Sources
Data sets were retrieved from the NH GRANIT database, December, 2015. Digital data in NH GRANIT represent the efforts of the contributing agencies to record information from the cited source materials. Earth Systems Research Center (ESRC), under contract to the Office of Energy & Planning (OEP), and in consultation with cooperating agencies, maintains a continuing program to identify and correct errors in these data. Neither OEP nor ESRC make any claim as to the validity or reliability or to any implied uses of these data.

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Resource Type	Name/Type	Sea Level Scenarios		
		1.7 feet	4.0 feet	6.3 feet
Wellhead Protection Areas	Exeter Hospital/Sleep Med: 4 Alami Drive	4.24	4.06	7.09
	Exeter Public Works Complex: 13 Newfields Road	7.37	8.57	15.18
	Exeter Water Department: Portsmouth Ave	5.28	7.00	8.33
	Stratham Crossing 7621: 100 Shaws Lane	27.68	29.35	30.73
Estuarine and Marine Wetlands	Stratham Woods: Butterfield Lane	0.09	0.09	0.09
	Estuarine and Marine Deepwater	79.95	80.09	80.16
	Estuarine and Marine Wetland	152.83	153.69	153.96
Freshwater Wetlands	Freshwater Emergent Wetland	2.56	2.74	2.74
	Freshwater Forested/Shrub Wetland	4.83	6.32	7.15
	Freshwater Pond	0.96	1.21	17.53
	Lake	0.00	0.00	0.00
Aquifers	Stratified Drift	0.00	0.04	0.06
	Stratified Drift	0.00	0.00	0.00

Resource Type	Water Resource Totals (acres)		
	1.7 feet	4.0 feet	6.3 feet
Wellhead Protection Areas	44.66	51.07	61.42
Estuarine and Marine Wetlands	232.78	233.78	234.12
Freshwater Wetlands	8.35	10.31	27.48
Stratified Drift Aquifers	0.00	0.00	0.00
Totals Combined	285.79	295.16	323.02