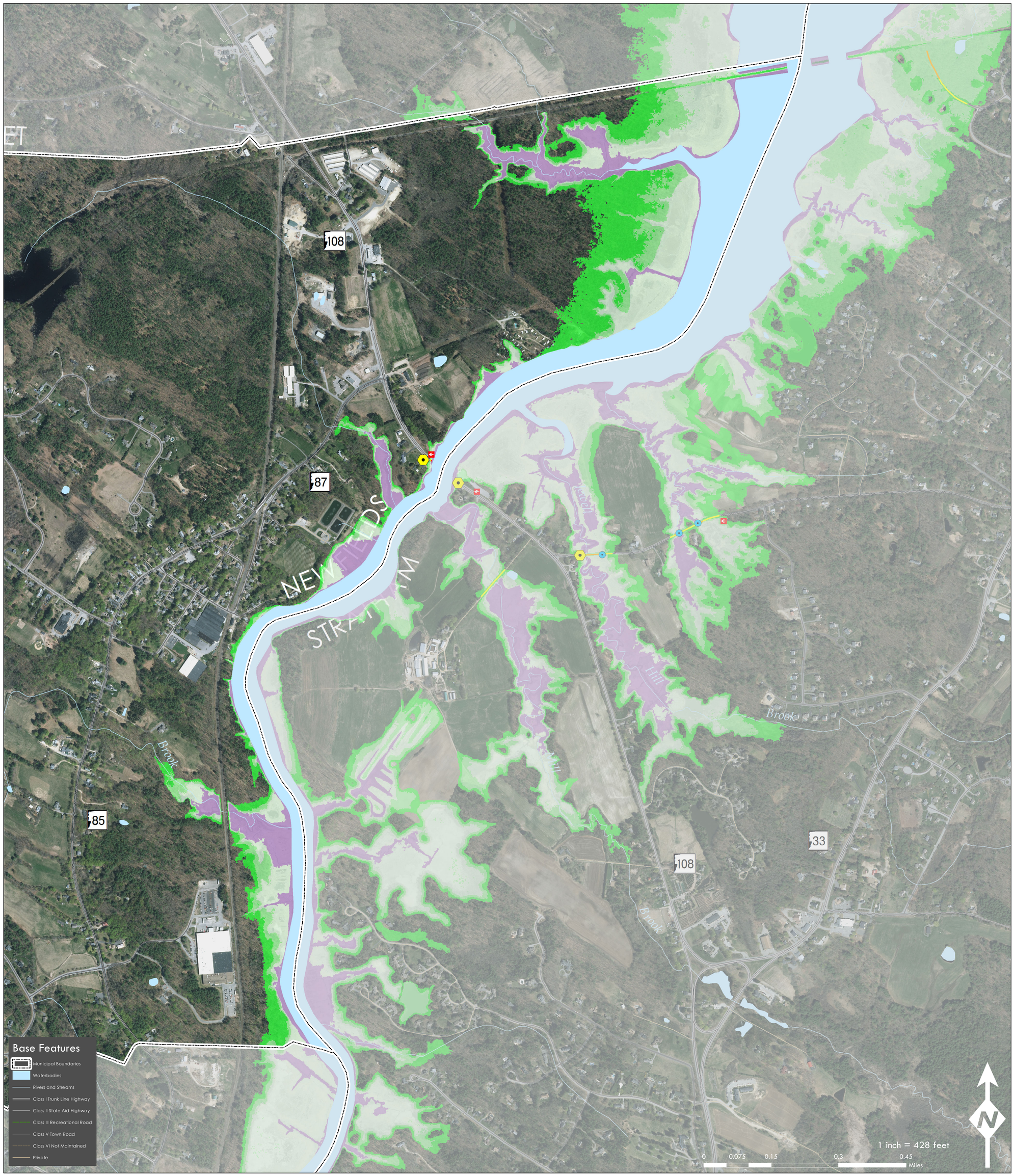
C-RiSe

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.

TRANSPORTATION ASSETS: TOWN OF NEWFIELDS

Extent of Projected Tidal Flooding
Sea-Level Rise 1.7', 4.0', 6.3'



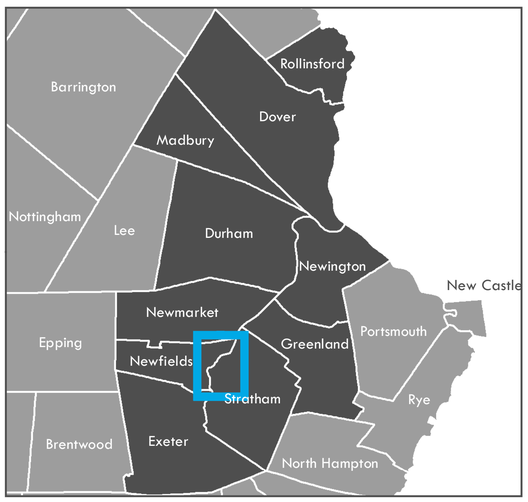
SLR Legend

- 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

Impact Legend

- DOT Projects
- Evacuation Routes
- Culverts
- Roads Impacted By Sea-Level Rise of 6.3 Feet
- Roads Impacted By Sea-Level Rise of 4.0 Feet
- Roads Impacted By Sea-Level Rise of 1.7 Feet

Disclaimer:
NHDOT projects were derived from various sources within the New Hampshire Department of Transportation and may have been updated at different times and with varying levels of accuracy. Given redundancies and the need to provide meaningful maps for planning purposes, SRPC generalized projects according to vulnerable areas. A more comprehensive list of impacted projects can be viewed within the community's vulnerability assessment chapter.



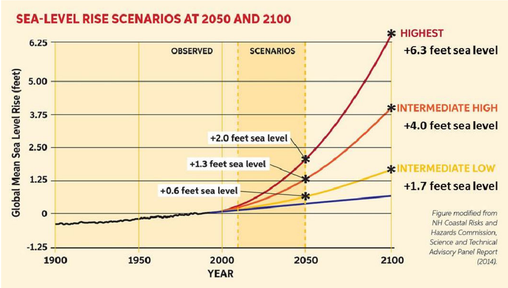


Figure modified from NH Coastal Risks and Hazards Commission, Science and Technical Advisory Panel Report (2014).

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 CP, Kirshen P, Huber M, Knuti K, and Stampone 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 a,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

Table 13. Estimates (in feet) of future 100-year flood Stillwater elevations at Fort Point under lower and higher emission scenarios (relative to NAVD88) **based on the statistical analysis presented in this report**.

Wake CE, S. Burakowski, E Keleey, K. Hayhoe, A. Stoner, C. Watson, E Douglas (2011) Climate Change in the Piscataqua/Great Bay Region: Past, Present, and Future. Carbon Solutions New England Report for the Great Bay (New Hampshire) Stewards."

Road Asset Impacts: Town of Newfields

Road Name	Road Class	Miles Impacted	Road Name	Road Class	Miles Impacted	Road Name	Road Class	Miles Impacted
Route 108	State	0.00						

Note: Total miles impacted per road were calculated using the greatest sea-level scenario (6.3') extent.

State & Municipal Roadways (miles)

Roadway Type	Sea Level Scenarios		
	1.7 feet	4.0 feet	6.3 feet
State	0.00	0.00	0.00
Local	0.00	0.00	0.00
Private	0.00	0.00	0.00
Not Maintained	0.00	0.00	0.00
Total Road Miles	0.00	0.00	0.00

Other Transportation Asset Impacts: Town of Newfields

Impacted Asset	Metric	Metric Impact	General Location and Name
Urban Compact Areas	Acres	0	N/A
Evacuation Routes	#	1	Route 108
Bridges	#	0	N/A
Airports	#	0	N/A
NHDOT Projects	#	1	Route 108 bridge replacement over Squamscott River
Climate Ready Culverts	#	0	N/A

Prepared by the Strafford Regional Planning Commission
150 Wakefield St. Suite 12 Rochester, NH 03867
T: (603) 994-3500 E: srpc@strafford.org

Date: 7/29/2016 Author: MS/RP/JL/KP

Path: M:\Region\Project_Special_Merit\Mapping\Final_Maps_By_Community\Newfields\Newfields_Transportation_1_3.mxd

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 ERSC make any claim as to the validity or reliability or to any implied uses of these data.

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