

**Sea Level Rise and Storm Surge Scenarios for Lunenburg (m CGVD28)**

Parameter	2000	2025	2055	2085	2100
Total Sea Level Rise (m)	0.15 ± 0.03	0.43 ± 0.15	0.83 ± 0.36	1.06 ± 0.48	
Extreme Total Sea Level (m CGVD28)					
HHWLT	1.24	1.39 (Sc. 1A)	1.67 ± 0.15	2.07 ± 0.36	2.30 ± 0.48
10-Year Return Period	1.95 ± 0.20	2.10 ± 0.23	2.38 ± 0.35	2.78 ± 0.56	3.01 ± 0.68
25-Year Return Period	2.05 ± 0.20	2.20 ± 0.23	2.48 ± 0.35	2.88 ± 0.56	3.11 ± 0.68
50-Year Return Period	2.12 ± 0.20	2.27 ± 0.23	2.55 ± 0.35	2.95 ± 0.56	3.18 ± 0.68
100-Year Return Period	2.19 ± 0.20	2.34 ± 0.23	2.62 ± 0.35	3.02 ± 0.56	3.25 ± 0.68
Benchmark storm:					
Hurricane Juan (1.63 m surge)	2.87	3.05 (Sc. 1B)	3.30 ± 0.15	3.70 ± 0.36	4.41 (Sc. 2B)

Note: the above estimates were converted from Daigle and Richards estimates using a 1.188 m conversion factor from the local Chart Datum to the Geoidetic Datum CGVD28 (source: DFO, December 2014)

Table 1.3 from: CBCL (2015) Municipal Climate Change Action Plan for the Town of Lunenburg, Final Report, p. 7.

# TOWN OF LUNENBURG

## Sea Level Rise & Storm Surge Extents for Years 2025 and 2100

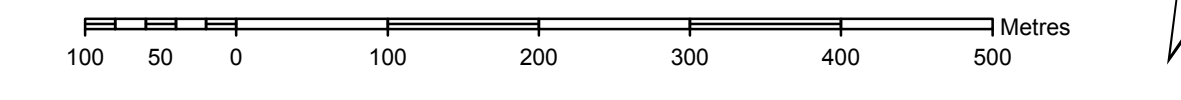
- Scenario 1A: 1.42m
- Scenario 2A: 2.78m
- Scenario 1B: 3.05m
- Scenario 2B: 4.41m

### Zoning Classifications

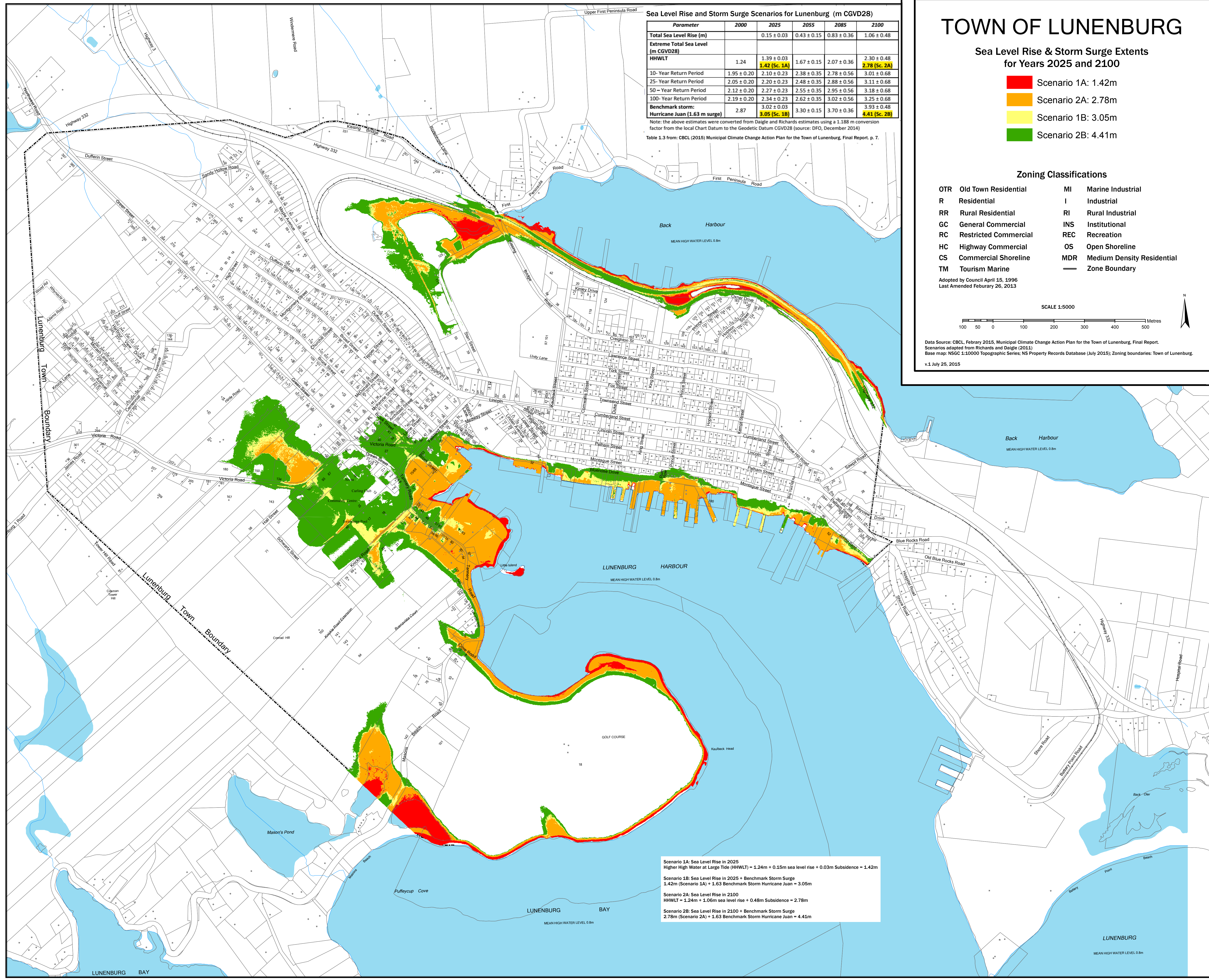
- |                          |                                |
|--------------------------|--------------------------------|
| OTR Old Town Residential | MI Marine Industrial           |
| R Residential            | I Industrial                   |
| RR Rural Residential     | RI Rural Industrial            |
| GC General Commercial    | INS Institutional              |
| RC Restricted Commercial | REC Recreation                 |
| HC Highway Commercial    | OS Open Shoreline              |
| CS Commercial Shoreline  | MDR Medium Density Residential |
| TM Tourism Marine        | — Zone Boundary                |

Adopted by Council April 15, 1996  
Last Amended February 26, 2013

SCALE 1:5000



Data Source: CBCL, February 2015, Municipal Climate Change Action Plan for the Town of Lunenburg, Final Report.  
Scenarios adapted from Richards and Daigle (2011).  
Base map: NSGC 1:10000 Topographic Series; NS Property Records Database (July 2015); Zoning boundaries: Town of Lunenburg, v.1 July 25, 2015



Scenario 1A: Sea Level Rise in 2025  
Higher High Water at Large Tide (HHWLT) = 1.24m + 0.15m sea level rise + 0.03m Subsidence = 1.42m

Scenario 1B: Sea Level Rise in 2025 + Benchmark Storm Surge  
1.42m (Scenario 1A) + 1.63 Benchmark Storm Hurricane Juan = 3.05m

Scenario 2A: Sea Level Rise in 2100  
HHWLT = 1.24m + 1.06m sea level rise + 0.48m Subsidence = 2.78m

Scenario 2B: Sea Level Rise in 2100 + Benchmark Storm Surge  
2.78m (Scenario 2A) + 1.63 Benchmark Storm Hurricane Juan = 4.41m