

Table 1 Statewide Coastal Road Flooding with ~4 feet SLR by 2100

Year	Tidal and Storm Road Flooding Frequencies ¹					
	Tidal Flooding Frequency (days) and extent (miles)			Total Tidal Flooding*	Storm Flooding	
	30 day	60 day	90 day		10 year	100 year
2010	N/A	2.50	3.24	5.75	139.84	218.93
2025	6.32	5.38	4.78	16.48	164.92	216.25
2040	24.32	9.73	8.41	42.46	180.33	214.92
2055	53.56	12.28	13.47	79.31	185.13	208.76
2085	173.35	16.33	13.91	203.59	175.83	193.93
2100	242.21	16.76	12.61	271.58	169.89	189.16

* SLAMM's road flooding processing was unable to assess 30-day frequency road flooding in 2010 and is therefore reported here as not available (N/A). It's estimated that less than 1 mile of 30-day frequency flooding occurred at this date. Total tidal road flooding reported differs from sum of road flooding frequency intervals due to rounding.

As of 2010, only about 5.75 miles of Connecticut's coastal area roads flood at least every 90 days from tidal non-storm influenced tidal flooding (sum of 30 day, 60 day, 90 day road flooding in Table 4). However, as shown in Table 4, SLAMM projects that tidal road flooding (often referred to as 'sunny-day' or 'nuisance flooding') is expected to increase to approximately 43 miles by 2040 and 79 miles by 2055. By 2055, 95 percent of tidal road flooding is expected to occur on local rather than State roads placing a significantly greater burden on coastal municipalities to manage increasing frequencies of coastal road flooding. It's important to recognize that SLAMM road flooding data does not indicate projected road flooding depths. Therefore, SLAMM's predicted future road flooding cannot be equated with vehicle access/egress restrictions. Limited field verification of initial conditions (year 2010) and projected (year 2025) coastal flood frequencies and water levels reveal road flooding depths ranging from a few inches to floodwater depths that have resulted temporary road closures by municipal departments of public works.

¹The road flooding frequencies presented here represent tidal flooding frequencies occurring at least every 30, 60 or 90 days as well as storm-influenced flooding with 10 year and 100 year frequency or occurrence intervals. Each flooding class should be interpreted as histograms bins with the frequency of flooding being less than the upper limit of the preceding bin but more than (or equal to) the upper limit of the flooding bin considered. For example:

30 days - all areas that are flooded at least once every 30 days

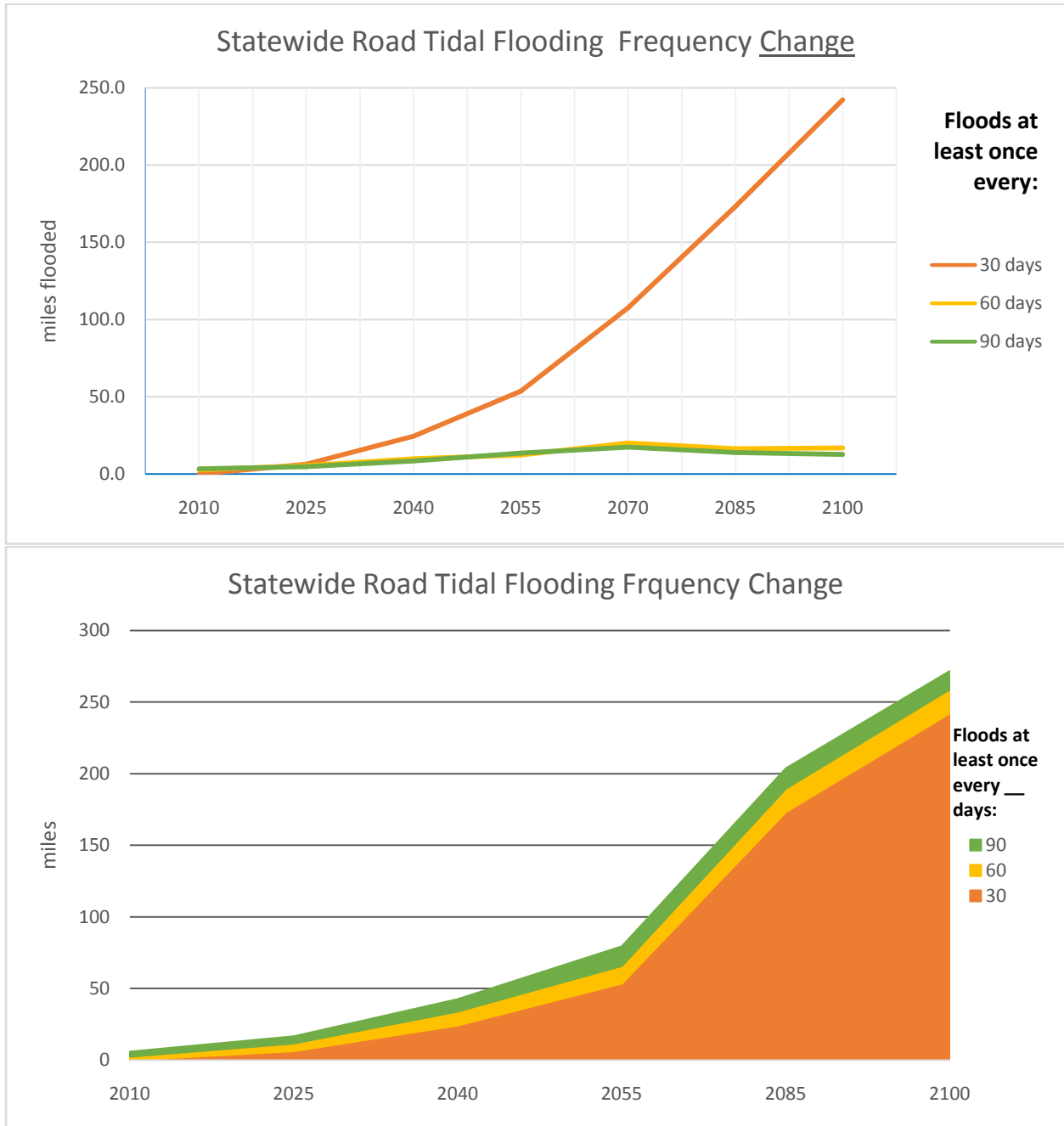
60 days - all areas that are flooded less frequently than once every 30 days but at least once every 60 days (e.g. areas flooded once every 40 days would belong to this flooding class)

90 days - all areas that are flooded less frequently than once every 60 days but at least once every 90 days

10 years - all areas that are flooded less frequently than once every 90 days but at least once every 10 years. *Therefore, areas that get flooded once every 2 years belong to this flooding class.*

100 years - areas that are flooded less frequently than once every 10 years but at least once every 100 years

Figure 1 Changes in Statewide Road Flooding Frequencies with 4 feet SLR by 2100



As indicated by the inflexion points on the 30 day road flooding frequency curve in Figure 4 at years 2025 and 2055, rising rates of monthly coastal road flooding will increasingly burden municipal and State road managers. However, increases in these high flood frequency roads vary by region and municipality. The municipalities with the greatest total amount of tidal road flooding (flooding from non-storm influences at least every 90 days) are shown in Table 4

Table 2 Coastal Municipalities Ranked by Coastal Road Flooding from Extreme Tides by 2040²

Municipality	2040 Road Flooding (miles)	2010 Flooding (miles)	Increase in Road Flooding 2010-2040 (miles)
Fairfield	7.89	0.30	7.59
Norwalk	4.55	0.27	4.28
Westport	3.26	0.44	2.81
Greenwich	2.83	0.66	2.17
Groton	2.77	0.22	2.55
Stonington	2.51	0.46	2.05
Old Saybrook	2.14	0.40	1.74
Darien	1.97	0.42	1.55
Milford	1.54	0.35	1.20
Stratford	1.50	0.17	1.33

Town of Fairfield High Frequency Road Flooding (at least every 90 days)



² Roads inundated by tidal (non-storm) waters at least every 90 days