

RI (21) COASTAL

SOCIOECONOMICS OF SEA LEVEL RISE COASTAL FACTSHEET



PROJECT OVERVIEW

Rhode Island's municipalities are in the preliminary stages of integrating planning for sea level rise and climate change into their comprehensive planning process. To support these planning efforts of RI cities and towns, RISPP developed the Socioeconomics of Sea Level Rise project. The project aims to assist coastal municipalities in their long-term planning by attempting to identify population characteristics of **the people** located within sea level rise (SLR) inundation zones 1, 3, 5 and 7 FT. The data presented in this factsheet places a focus on Environmental Justice and Title VI populations.

METHODOLOGY

The RISPP utilized 2010 Decennial Census data and the latest American Community Survey (ACS) estimates to conduct an extensive data analysis. Staff also utilized CRMC's STORMTOOLS GIS shapefiles to identify the SLR inundation zones. In addition, RI Geographic Information Systems (RIGIS) e-911 data was utilized to identify single family, multi-family and mobile home residential points located within each SLR inundation zone. For more information on the methodology, please reference the [full report](#) on our website.

RI (21) COASTAL QUICK FACTS

709,853

2010 Census Population

42.8

2010 Census Median Age

\$69,296

2014 ACS Median Household Income

21 COASTAL OCCUPIED RESIDENTIAL UNITS & POPULATION ESTIMATES

Of all municipalities in Rhode Island, 54%, or 21 of 39 are coastal communities. All but one of the coastal communities feature residential units in at least one inundation zone with the exception of Pawtucket.

The 21 Coastal Communities' average household size ranges from 1.96-2.50 per SLR scenario. The average household size and the percentage of occupied housing units were used to calculate population estimates per inundation scenario. Approximately 70-73%

of the residential units located within SLR inundation zones 1, 3, 5 and 7 FT. are occupied units. Residential units were identified in GIS using the e-911 shapefile. A combination of single family, multi-family and mobile home residential units were identified throughout the various SLR inundation zones, the majority of the units are single family. There is a significant change between the estimated population located in the 3 and 5 FT. SLR inundation zone, with an additional 2494 people estimated in the 5 FT. zone. The 7FT. inundation zone has the greatest population and number of residential units, with 6945 people estimated within the zone, and 3321 occupied residential units.

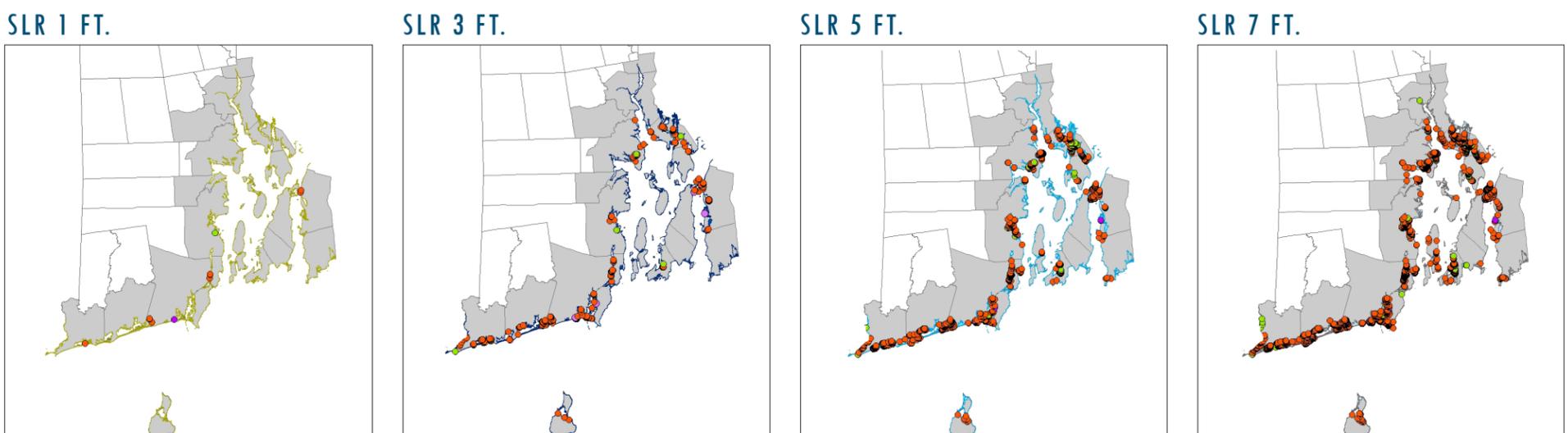
SLR Inundation zone	Residential Units	Occupied Unit calculation (Total Units (x) Occ. Housing Unit Rate in SLR zone)	Population calculation (Occupied Units (x) 21 Coastal Community Avg. HH Size)
1FT.	9 SF, 1 MF, 1 Mobile	8 (70% occ. HU)	20
3FT.	300 SF, 18 MF, 15 Mobile	246 (70% occ. HU)	481
5FT.	1646 SF, 203 MF, 42 Mobile	1487 (71% occ. HU)	2975
7FT.	3642 SF, 430 MF, 47 Mobile	3321 (73% occ. HU)	6945



Watch Hill Historic District, Westerly, RI
September 2015 King Tide, Photo Courtesy of Mycoast.org,
submitted by David Prescott

SLR INUNDATION ZONES

The maps above illustrate each of the SLR inundation zones. Single family units are represented by orange points in the SLR inundation zone maps, while multi-family units are represented by green points. Purple points signify mobile home units.



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SLR 1

SLR 3

SLR 5

SLR 7

EST. POPULATION: 20
EST. OCCUPIED HOUSEHOLDS: 8

EST. POPULATION: 481
EST. OCCUPIED HOUSEHOLDS: 246

EST. POPULATION: 2975
EST. OCCUPIED HOUSEHOLDS: 1487

EST. POPULATION: 6945
EST. OCCUPIED HOUSEHOLDS: 3321

98% or 18 - White
0% - Black
0% - American Indian/Alaska Native
1% or 0.1 - Asian
1% or 0.3 - Hispanic
3% or 1 - Minority

96% or 461 - White
1% or 5 - Black
1% or 2 - American Indian/Alaska Native
1% or 5 - Asian
2% or 8 - Hispanic
5% or 26 - Minority

94% or 2802 - White
2% or 47 - Black
1% or 15 - American Indian/Alaska Native
1% or 34 - Asian
3% or 81 - Hispanic
7% or 221 - Minority

94% or 6535 - White
2% or 111 - Black
0.4% or 31 - American Indian/Alaska Native
1% or 88 - Asian
3% or 189 - Hispanic
7% or 514 - Minority

9%
or 2 - Age 75 or older

10%
or 50 - Age 75 or older

9%
or 282 - Age 75 or older

9%
or 620 - Age 75 or older

8% or 1 are Individuals with Disabilities

7% or 21 are Individuals with Disabilities

8% or 157 are Individuals with Disabilities

8% or 362 are Individuals with Disabilities

0% are Limited English Proficiency Households

1% or 3 are Limited English Proficiency Households

1% or 18 are Limited English Proficiency Households

1% or 43 are Limited English Proficiency Households

8% or 1 are Unemployed

7% or 27 are Unemployed

8% or 189 are Unemployed

8% or 422 are Unemployed

6% or 1 are Individuals Below Poverty Level

9% or 43 are Individuals Below Poverty Level

9% or 276 are Individuals Below Poverty Level

9% or 612 are Individuals Below Poverty Level

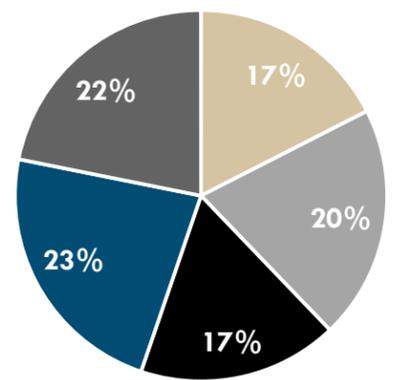
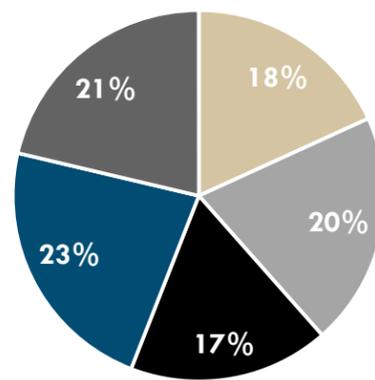
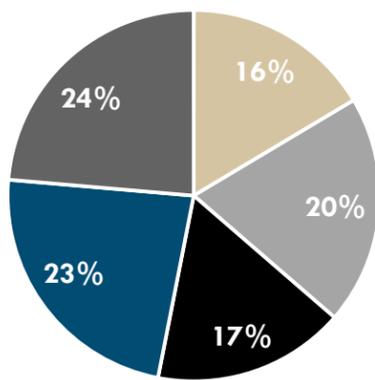
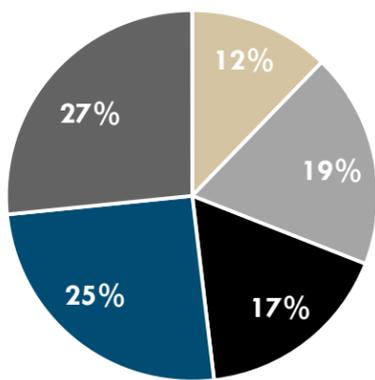
4% or 0.3 Households receive SSI

4% or 8 Households receive SSI

5% or 59 Households receive SSI

5% or 137 Households receive SSI

- In Estimated Occupied Housing Units



■ Less than 24,999K ■ 25,000 to 49,999 ■ 50,000 to 74,999 ■ 75,000 to 124,999 ■ 125,000 and up

- Percent of Population in Housing Type

18% Renter Occupied
20% Owned Outright

26% Renter Occupied
19% Owned Outright

30% Renter Occupied
17% Owned Outright

29% Renter Occupied
16% Owned Outright



62%
Owned with Mortgage/Loan

56%
Owned with Mortgage/Loan

53%
Owned with Mortgage/Loan

54%
Owned with Mortgage/Loan

RACE & AGE

SOCIAL CHARACTERISTICS

HOUSEHOLD INCOME

HOUSEHOLD CHARACTERISTICS

RI (21) COASTAL

		Sea Level Rise (SLR)						Count	
HOUSING UNITS & POPULATION	Variable Name							Count	
	e911 Housing Unit Total	SLR 1	SLR 3	SLR 5	SLR 5	SLR 7	SLR 7		
	Single Family (R1) Units	9	300	1646			3642		
	Multifamily (R2) Units with Calculation (*2)	1*2=2	18*2=36	203*2=406			430*2=860		
	Mobile Home (R3) Units	1	15	42			47		
	Total Units: Single Family (R1), Multifamily (R2), Mobile Home (R3)	12	351	2094			4549		
	Note: Multifamily unit totals are multiplied by 2 based on the presumption that there are a minimum of two units within each multifamily e911 point								
	Variable Name	Sea Level Rise (SLR)						Count & Percentage	
	e911 Housing Unit Calculation	SLR 1	SLR 1 %	SLR 3	SLR 3 %	SLR 5	SLR 5 %	SLR 7 %	
	Total Units: Single Family (R1), Multifamily (R2), Mobile Home (R3)	12	100%	351	100%	2094	100%	4549	100%
Estimated Occupied Units - Count and Percentage	8	70%	246	70%	1487	71%	3321	73%	
Population Calculation	SLR 1						SLR 3	SLR 5	SLR 7
Estimated Occupied Units	8	100%	246	100%	1487	100%	3321	100%	
Population Estimate= Occupied Units (x) RI 21 Coastal Avg. Household Size	8*2.50=20		246*1.96=481		1487*2.00=2975		3321*2.09=6945		
DEMOGRAPHIC <small>Block Level and Block Group Data</small>	Race/Hispanic Ethnicity	SLR 1	SLR 1 %	SLR 3	SLR 3 %	SLR 5	SLR 5 %	SLR 7	SLR 7 %
	Total Population (in Occupied Housing Units)	20	100%	481	100%	2975	100%	6945	100%
	White	20	98%	461	96%	2802	94%	6535	94%
	Black or African American	0	0%	5	1%	47	2%	111	2%
	American Indian and Alaska Native	0	0%	2	1%	15	1%	31	0.4%
	Asian	0.1	1%	5	1%	34	1%	88	1%
	Some Other Race	0	0%	2	0.4%	25	1%	52	1%
	Hispanic	0.3	1%	8	2%	81	3%	189	3%
	Non-Hispanic, White Population	19	97%	455	95%	2754	93%	6431	93%
	Minority Population (Total Population minus Non-Hispanic, White Population)	1	3%	26	5%	221	7%	514	7%
	Age	SLR 1	SLR 1 %	SLR 3	SLR 3 %	SLR 5	SLR 5 %	SLR 7	SLR 7 %
	Total Population (in Occupied Housing Units)	20	100%	481	100%	2975	100%	6945	100%
	Young Children (<5)	1	3%	17	3%	120	4%	277	4%
	School-Age Children (5-17)	3	14%	63	13%	397	13%	943	14%
	Age 18-24	1	6%	46	9%	274	9%	682	10%
	Age 25-44	4	18%	83	17%	592	20%	1434	21%
	Age 45-64	7	37%	166	34%	987	33%	2277	33%
	Age 65-74	2	12%	57	12%	323	11%	713	10%
	Age ≥75	2	9%	50	10%	282	9%	620	9%
	Population 16-64 (For Individuals with a disability variable)*	10	51%	304	63%	1899	64%	4450	64%
Population ≥25 (For educational attainment variable)	15	76%	355	74%	2184	73%	5045	73%	
Population ≥16 (For employment variable)*	17	84%	386	80%	2398	81%	5616	81%	
Population ≥65 (For age ≥65 in group quarters variable)*	4	21%	105	22%	604	20%	1332	19%	
SOCIAL <small>Block Group Data</small>	Disability	SLR 1	SLR 1 %	SLR 3	SLR 3 %	SLR 5	SLR 5 %	SLR 7	SLR 7 %
	Total Population (in Occupied Housing Units, age 16-64)	10	100%	304	100%	1899	100%	4450	100%
	Individuals with Disabilities	1	8%	21	7%	157	8%	362	8%
	Limited English Proficiency (LEP)	SLR 1	SLR 1 %	SLR 3	SLR 3 %	SLR 5	SLR 5 %	SLR 7	SLR 7 %
	Estimated Occupied Housing Units	8	100%	246	100%	1487	100%	3321	100%
	Limited English Proficiency Households	0	0%	2	1%	18	1%	43	1%
	Educational Attainment	SLR 1	SLR 1 %	SLR 3	SLR 3 %	SLR 5	SLR 5 %	SLR 7	SLR 7 %
	Total Population (in Occupied Housing Units, age ≥25)	15	100%	355	100%	2184	100%	5045	100%
	Less than a High School Diploma or Equivalent	1	6%	24	7%	176	8%	382	8%
	High School Diploma or GED	3	20%	76	21%	515	24%	1165	23%
	Professional School	1	3%	12	3%	69	3%	164	3%
	Associate's/Bachelor's	6	36%	122	34%	718	33%	1676	33%
	Master's/PhD	2	16%	60	17%	339	16%	816	16%
	Other (Some College)	3	18%	60	17%	366	17%	841	17%
	ECONOMIC <small>Block Group Data and Municipal Level Data†</small>	Employment	SLR 1	SLR 1 %	SLR 3	SLR 3 %	SLR 5	SLR 5 %	SLR 7
Total Population (in Occupied Housing Units, age ≥16)		17	100%	386	100%	2398	100%	5616	100%
Employed		15	92%	343	89%	2103	88%	4919	88%
Unemployed		1	8%	27	7%	189	8%	422	8%
Job Industry ‡		SLR 1	SLR 1 %	SLR 3	SLR 3 %	SLR 5	SLR 5 %	SLR 7	SLR 7 %
Total Population (age ≥16 and employed)		15	100%	343	100%	2103	100%	4919	100%
Agriculture, forestry, fishing & hunting, mining		0.2	1%	3	1%	16	1%	37	0.8%
Construction		1	5%	19	6%	119	6%	271	5.5%
Manufacturing		1	9%	28	8%	191	9%	444	9.0%
Wholesale trade		0.3	2%	6	2%	41	2%	98	2.0%
Retail trade		2	11%	38	11%	228	11%	532	10.8%
Transportation & warehousing, utilities		0.4	3%	10	3%	67	3%	158	3.2%
Information		0.2	1%	5	1%	30	1%	73	1.5%
Finance & insurance, real estate, rental & leasing		1	8%	23	7%	147	7%	349	7.1%
Professional, scientific, management, administrative, waste management services		1	9%	35	10%	214	10%	510	10.4%
Educational services, health care, social assistance		5	29%	97	28%	580	28%	1364	28%
Arts, entertainment, recreation, accommodation & food services		2	12%	48	14%	280	13%	642	13.1%
Other services (except public administration)		1	5%	14	4%	84	4%	191	3.9%
Public administration		1	5%	17	5%	104	5%	244	5.0%
Income		SLR 1	SLR 1 %	SLR 3	SLR 3 %	SLR 5	SLR 5 %	SLR 7	SLR 7 %
Estimated Occupied Housing Units	8	100%	205	100%	1282	100%	2978	100%	
Less than \$24,999K	1	12%	34	16%	233	18%	521	17%	
\$25,000 to 49,999	1	19%	41	20%	260	20%	607	20%	
\$50,000 to 74,999	1	17%	34	17%	224	17%	517	17%	
\$75,000 to 124,999	2	25%	48	23%	292	23%	683	23%	
\$125,000 and greater	2	27%	48	24%	273	21%	650	22%	
Total Population (in Occupied Housing Units)	20	100%	481	100%	2975	100%	6945	100%	
Income Below Poverty Level	1	6%	43	9%	276	9%	612	9%	
Income Above Poverty Level	19	94%	438	91%	2699	91%	6333	91%	
Estimated Occupied Housing Units	8	100%	205	100%	1282	100%	2978	100%	
With Social Security Income (SSI) Households	0.3	4%	8	4%	59	5%	137	5%	
Without Social Security Income (SSI) Households	8	96%	197	96%	1223	95%	2841	95%	
HOUSING <small>Block Level and Block Group Data</small>	Housing Occupancy	SLR 1	SLR 1 %	SLR 3	SLR 3 %	SLR 5	SLR 5 %	SLR 7	SLR 7 %
	Total Housing Units	11	100%	351	100%	2005	100%	4418	100%
	Occupied Housing Units	7	62%	204	58%	1282	64%	2977	67%
	Vacant Housing Units	4	38%	147	42%	722	36%	1441	33%
	Estimated Occupied Housing Units	8	100%	205	100%	1282	100%	2978	100%
	Owner-Occupied Housing Units	5	71%	141	69%	863	67%	1999	67%
	Renter-Occupied Housing Units	1	18%	47	23%	387	30%	886	30%
	Total Population (in Occupied Housing Units)	20	100%	481	100%	2975	100%	6945	100%
	Population in Group Quarters	1	3%	18	4%	103	3%	284	4%
	Total Population (age ≥65)	4	100%	105	100%	604	100%	1332	100%
	Age ≥65 in Group Quarters*	0	0	3	3%	25	4%	55	4%
	Housing Tenure*	SLR 1	SLR 1 %	SLR 3	SLR 3 %	SLR 5	SLR 5 %	SLR 7	SLR 7 %
	Total Population (in Occupied Housing Units)	20	100%	481	100%	2975	100%	6945	100%
	Population in Property Owned with mortgage or loan	12	62%	268	56%	1579	53%	3762	54%
	Population in Property Owned free and clear	4	20%	90	19%	499	17%	1145	16%
Population in Renter-Occupied Units	4	18%	124	26%	897	30%	2038	29%	
JOBS <small>Municipal Data† & e911 Data</small>	Employment and Business Unit Data‡							Count	
	Average Employment - Municipality							16181	
	Number of Units (Business - Private and Government)							1093	
	Average Number of Workers per Unit (Business - Private and Government)							15	
	Workers Per Commercial Unit	SLR 1	SLR 3	SLR 5	SLR 7				
	e911 Commercial Unit Total	5	100	363	807				
Average Number of Workers/Jobs per Commercial Unit	74	1480	5374	11947					