

LIS Sea Level Affecting Marshes Model Projected Land Cover Change

Mid- and long-term land cover change Moderate sea level rise scenario*

Land Cover Class (coastal marsh highlighted in blue)	2010 (acres)	2055 (acres)	2100 (acres)
Irregularly Flooded (High) Marsh	10,306	8,581	1,268
Regularly Flooded (Low) Marsh	2,114	5,061	14,643
Tidal Fresh Marsh	710	667	514
Transitional Salt Marsh	1,476	1,622	2,317
Total Coastal Marsh	14,606	15,931	18,742
Swamp	8,531	8,423	8,166
Inland Open Water	4,523	4,479	4,384
Estuarine Beach	2,402	2,113	1,575
Inland Fresh Marsh	819	759	644
Freshwater Tidal Scrub/Shrub	629	499	245
Flooded Developed Dry Land	351	1,122	4,389
Tidal Flat	159	324	787
Rocky Intertidal	58	51	42

Long-term change in coastal marsh Moderate* and Extreme (Rapid Ice Melt Maximum-RIMM)** scenarios

Coastal Marsh Class	CT Acres in 2010	Percent land-cover change 2010 to 2100 for alternative SLR		CT Acres in 2100 (1 meter)	CT Acres in in 2100 (RIMM)
		1 meter	RIMM*		
Irregularly Flooded (High) Marsh	10,306	-87.7	-97.4	1,268	268
Regularly Flooded (Low) Marsh	2,114	592.7	462.5	14,643	9,777
Tidal Fresh Marsh	710	-27.6	-85.6	514	102
Transitional Salt Marsh	1,476	57.0	57.3	2,317	2,315
Total Coastal Marsh	14,606	28.3	-14.7	18,742	12,462

* Moderate scenario = 1 meter sea level rise by year 2100.

**Extreme (RIMM) scenario = 1.72 meter sea level rise by year 2100.

Source for climate change projections:

New York State Energy and Research Development Authority, *Responding to Climate Change in New York State (ClimAID)*, chapter 5, 2011.

<http://www.nysrerda.ny.gov/climaid>.

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Mid- and long-term land cover change Moderate sea level rise scenario*

Land Cover Class (coastal marsh highlighted in blue)	2010 (acres)	2055 (acres)	2100 (acres)
Irregularly Flooded (High) Marsh	1,730	1,621	943
Regularly Flooded (Low) Marsh	1,148	1,611	3,207
Tidal Fresh Marsh	12	8	2
Transitional Salt Marsh	690	842	1,370
Total Coastal Marsh	3,580	4,082	5,522
Swamp	1,212	1,207	1,113
Inland Open Water	1,408	1,369	1,117
Estuarine Beach	2,098	1,844	1,341
Inland Fresh Marsh	301	281	222
Freshwater Tidal Scrub/Shrub	12	10	6
Flooded Developed Dry Land	66	255	964
Tidal Flat	946	1,026	574
Rocky Intertidal	99	82	59

Long-term change in coastal marsh Moderate* and Extreme (Rapid Ice Melt Maximum-RIMM)** scenarios

Coastal Marsh Class	NY Acres in 2010	Percent land-cover change 2010 to 2100 for alternative SLR			
		1 meter	RIMM*	CT Acres in 2100 (1 meter)	CT Acres in in 2100 (RIMM)
Irregularly Flooded (High) Marsh	1,730	-786	-1,615	943	115
Regularly Flooded (Low) Marsh	1,148	2,059	4,067	3,207	5,216
Tidal Fresh Marsh	12	-10	-11	2	1
Transitional Salt Marsh	690	679	658	1,370	1,349
Total Coastal Marsh	3,580	1,941	3,099	5,522	6,680

* Moderate scenario = 1 meter sea level rise by year 2100.

**Extreme (RIMM) scenario = 1.72 meter sea level rise by year 2100.

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Moderate sea level rise scenario*

Coastal Marsh Land Cover Class	2010 (acres)	2055 (acres)	2100 (acres)
Irregularly Flooded (High) Marsh	12,036	10,202	2,211
Regularly Flooded (Low) Marsh	3,262	6,672	17,850
Tidal Fresh Marsh	722	675	516
Transitional Salt Marsh	2,166	2,464	3,687
Total Coastal Marsh	18,186	20,013	24,264

Extreme (Rapid Ice Melt Maximum-RIMM) scenario**

Coastal Marsh Land Cover Class	2010 (acres)	2055 (acres)	2100 (acres)
Irregularly Flooded (High) Marsh	12,036	4,603	383
Regularly Flooded (Low) Marsh	3,262	13,642	14,993
Tidal Fresh Marsh	722	18,245	103
Transitional Salt Marsh	2,166	3,229	3,664
Total Coastal Marsh	18,186	39,719	19,143

* Moderate scenario = 1 meter sea level rise by year 2100.

**Extreme (RIMM) scenario = 1.72 meter sea level rise by year 2100.

Source for climate change projections:

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<http://www.nysed.gov/climaid>.