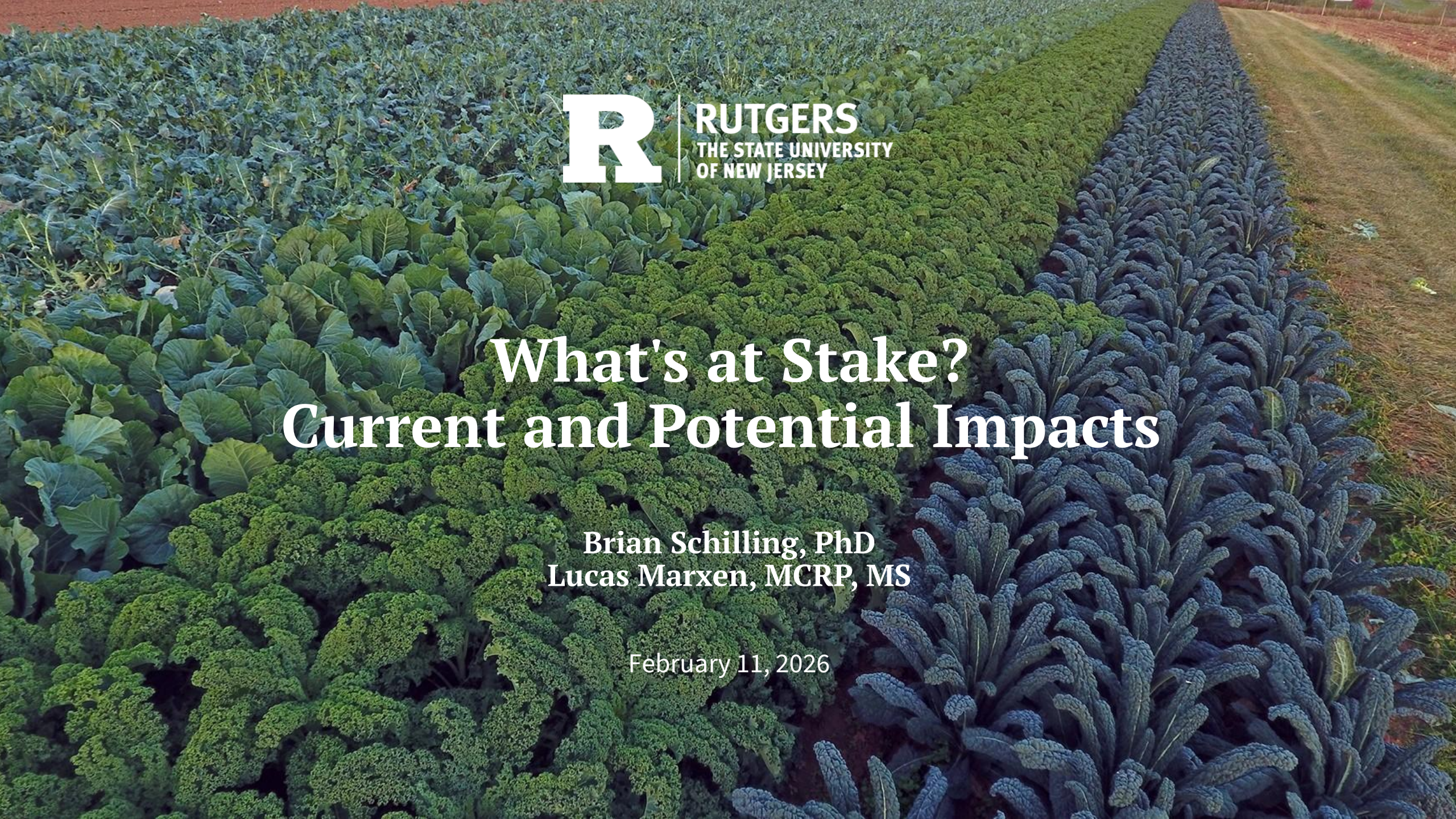

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What's at Stake? Current and Potential Impacts

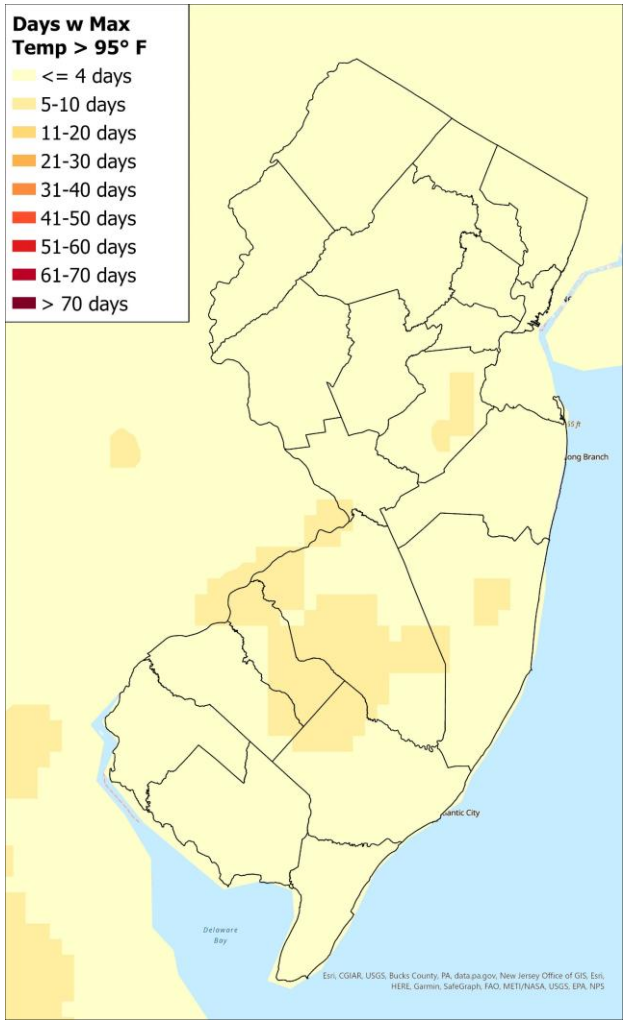
Brian Schilling, PhD
Lucas Marxen, MCRP, MS

February 11, 2026

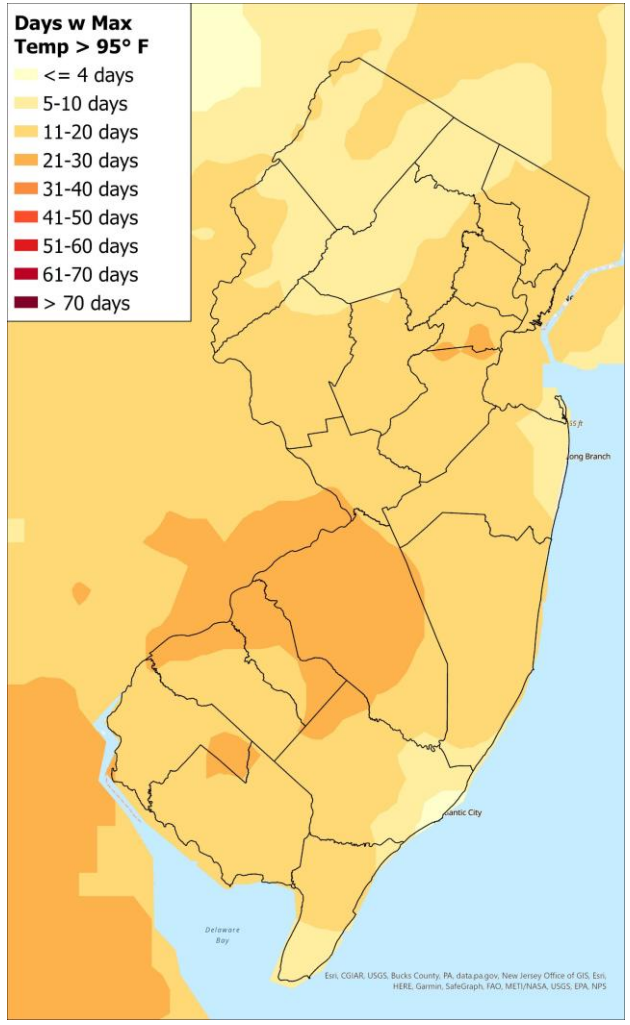
New Jersey Temperatures are Rising

Days with Maximum Temperature Above 95°F

Historical: 1981 - 2010

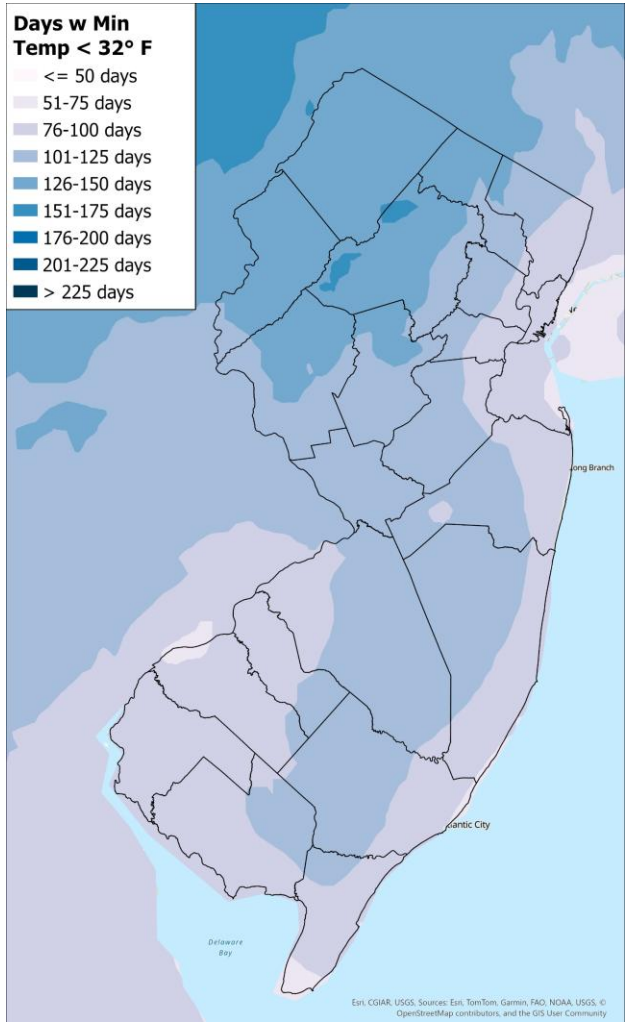


Moderate Emissions: 2050 - 2070

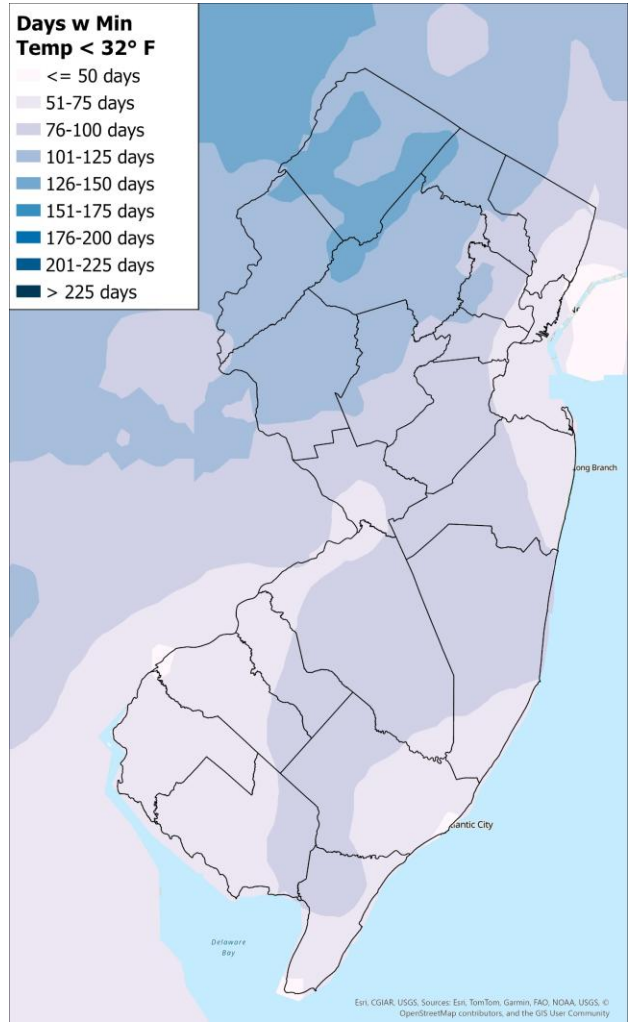


Days with Minimum Temperature Below 32°F

Historical: 1981 - 2010



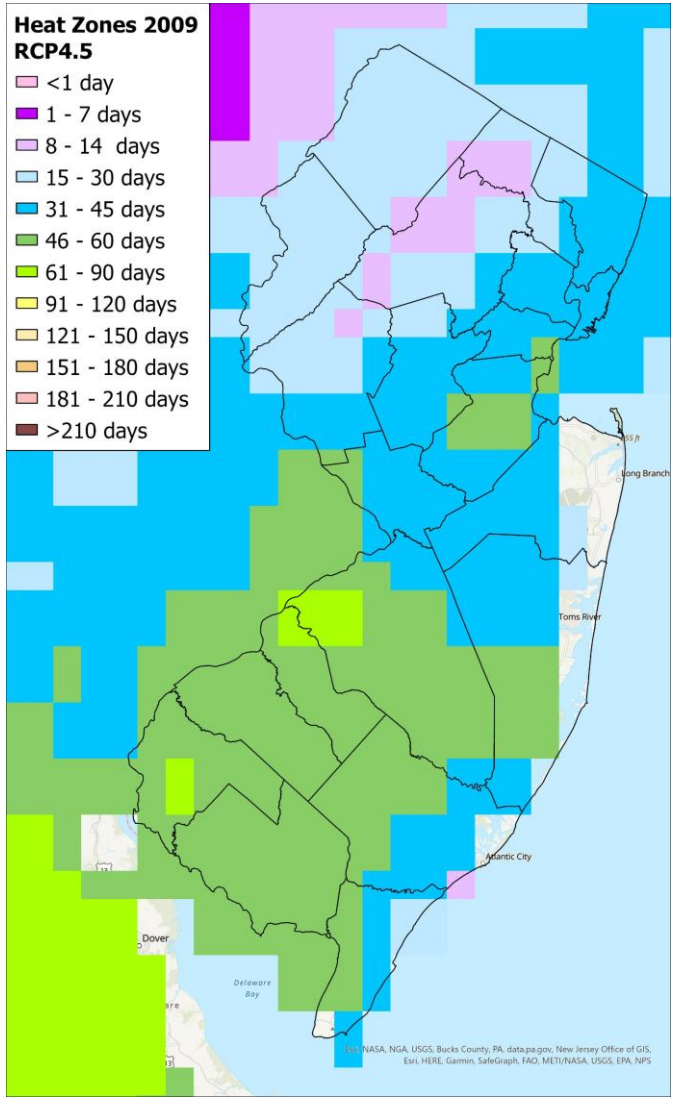
Moderate Emissions: 2050 - 2070

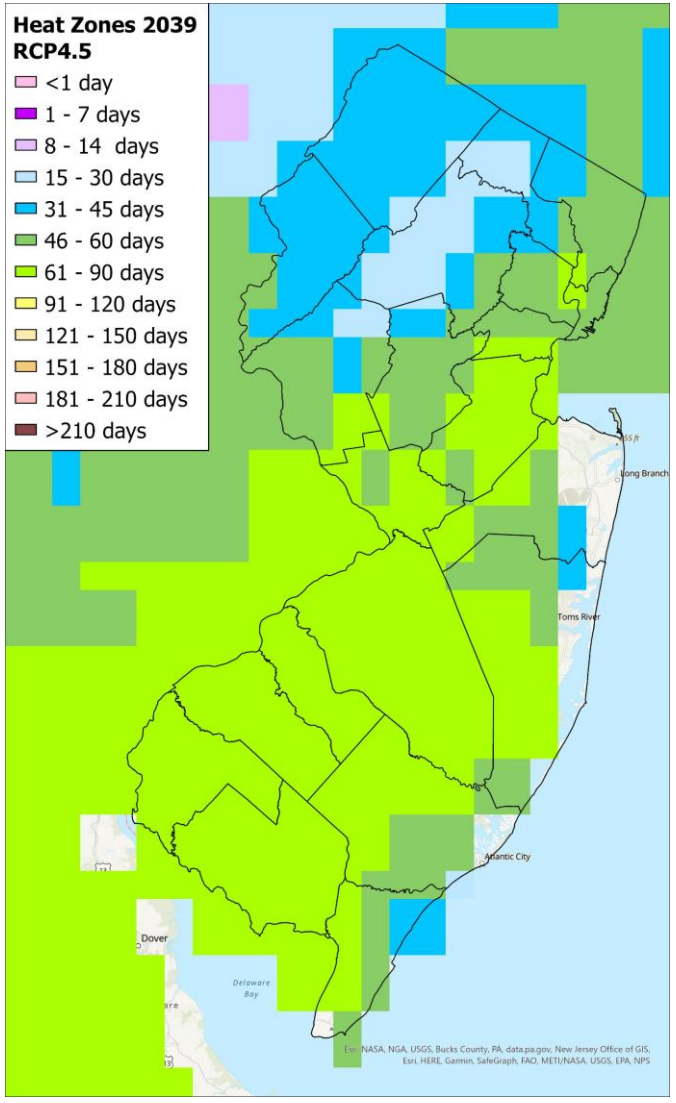


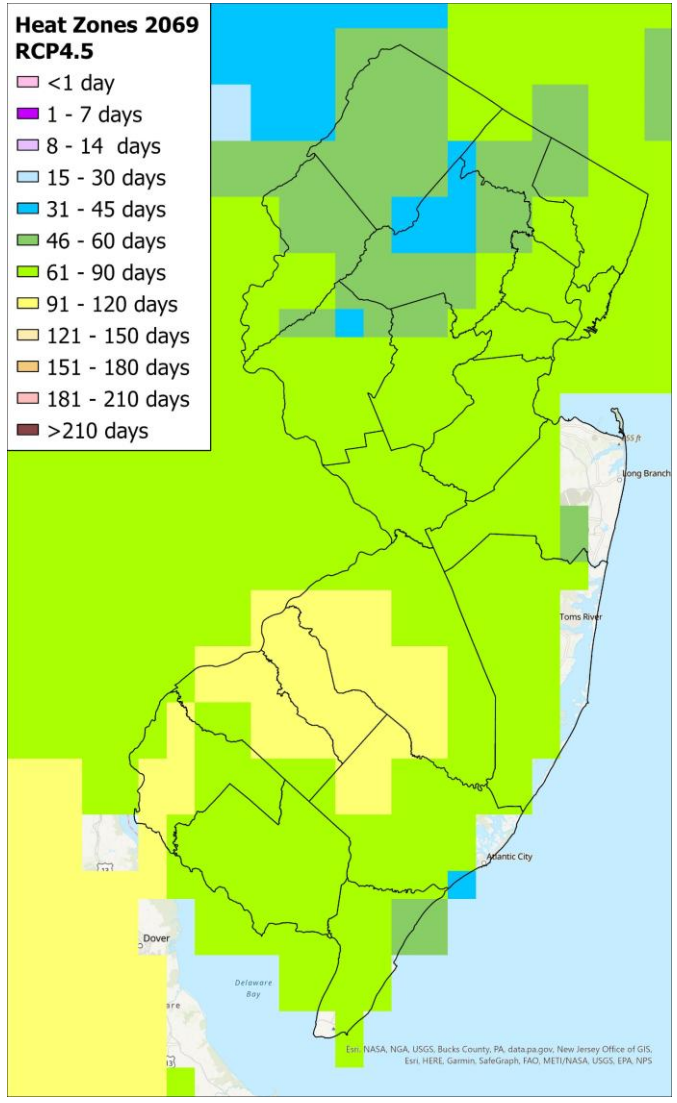
Source: Northeast Regional Climate Center at Cornell University through their Applied Climate Information System (ACIS, http://rcc-acis.org)

Rising Temperatures Impact Plant Health

Heat Zones – Daily temp threshold that negatively impacts photosynthesis (86°F)







Source: United States Department of Agriculture, U.S. Forest Service

Projected Increases in Heatwaves for NJ

		Historical (1981 – 2010)			Moderate Emissions (2036 - 2065)		
County	***Threshold (F)***	***Mean Heatwave Number***	***Mean Heatwave Duration***	***Max Heatwave Duration***	***Mean Heatwave Number***	***Mean Heatwave Duration***	***Max Heatwave Duration***
Atlantic	81.3	1.1	3.4	6.4	3.8 (2.8 - 7.3)	8 (6.3 - 12.7)	13.2 (9.4 - 21.2)
Burlington	81.2	1.1	3.3	7.2	4.1 (3.1 - 7.1)	8.3 (6.4 - 12.2)	16.1 (11.1 - 23.5)
Cumberland	**82**	**1.1**	**3.3**	**8.6**	**4.2 (3 - 8.1)**	**8.6 (6.6 - 12.4)**	**18.9 (13.4 - 26.7)**
Essex	80.9	1	3.3	7.5	3.6 (2.6 - 6.2)	8.1 (5.8 - 12.2)	16.1 (9.5 - 23.2)
Gloucester	82.2	1.1	3.4	8.6	4.3 (3.2 - 6.4)	8.8 (6.7 - 12.2)	18.7 (12.9 - 32)
Hunterdon	79	1.1	3.2	7.9	3.5 (2.6 - 5.5)	7.3 (5.3 - 10.6)	16.9 (10 - 24.4)
Middlesex	81.1	1.1	3.2	7.6	3.8 (2.9 - 6.6)	7.5 (5.4 - 10.8)	17.1 (11.5 - 23.6)
Monmouth	80.9	0.9	3.1	6.8	3.2 (2.3 - 5.2)	6.8 (4.9 - 9.8)	13.8 (9.1 - 20.3)
Salem	82.3	1.2	3.3	8.6	4.8 (3.6 - 7.4)	8.9 (6.5 - 12.2)	19.9 (14.1 - 31)
Warren	77.6	1.1	3.3	8.2	4.1 (2.8 - 6.2)	8.4 (5.7 - 12.6)	19 (11.6 - 30.2)

Source: Northeast Regional Climate Center at Cornell University through their Applied Climate Information System (ACIS, http://rcc-acis.org)

Extreme Rainfall Events

Change in Return Period for 24hr Storm Events (Cherry Hill, NJ)

- Return Period – the 1/*n* chance storm event
  - i.e. - **5yr Storm Event** = **1/5** chance annually = **20%** chance annually occurring

Change in Return Period – Moderate Emissions Scenario (2020 - 2069)				
	Atlas14 (Historical)		Moderate Emissions (2020 – 2069)	
Return Period	Mean Rainfall (inches)	Pct. Chance Annually	Return Period	Pct. Chance Annually
2 Yr Storm	3.3	50%	2.2	45.4%
5 Yr Storm	4.2	20%	4.0	24.9%
10 Yr Storm	5.0	10%	6.7	14.9%
25 Yr Storm	6.2	4%	14.3	7.0%
50 Yr Storm	7.2	2%	27.8	3.6%
100 Yr Storm	8.3	1%	55.6	1.8%

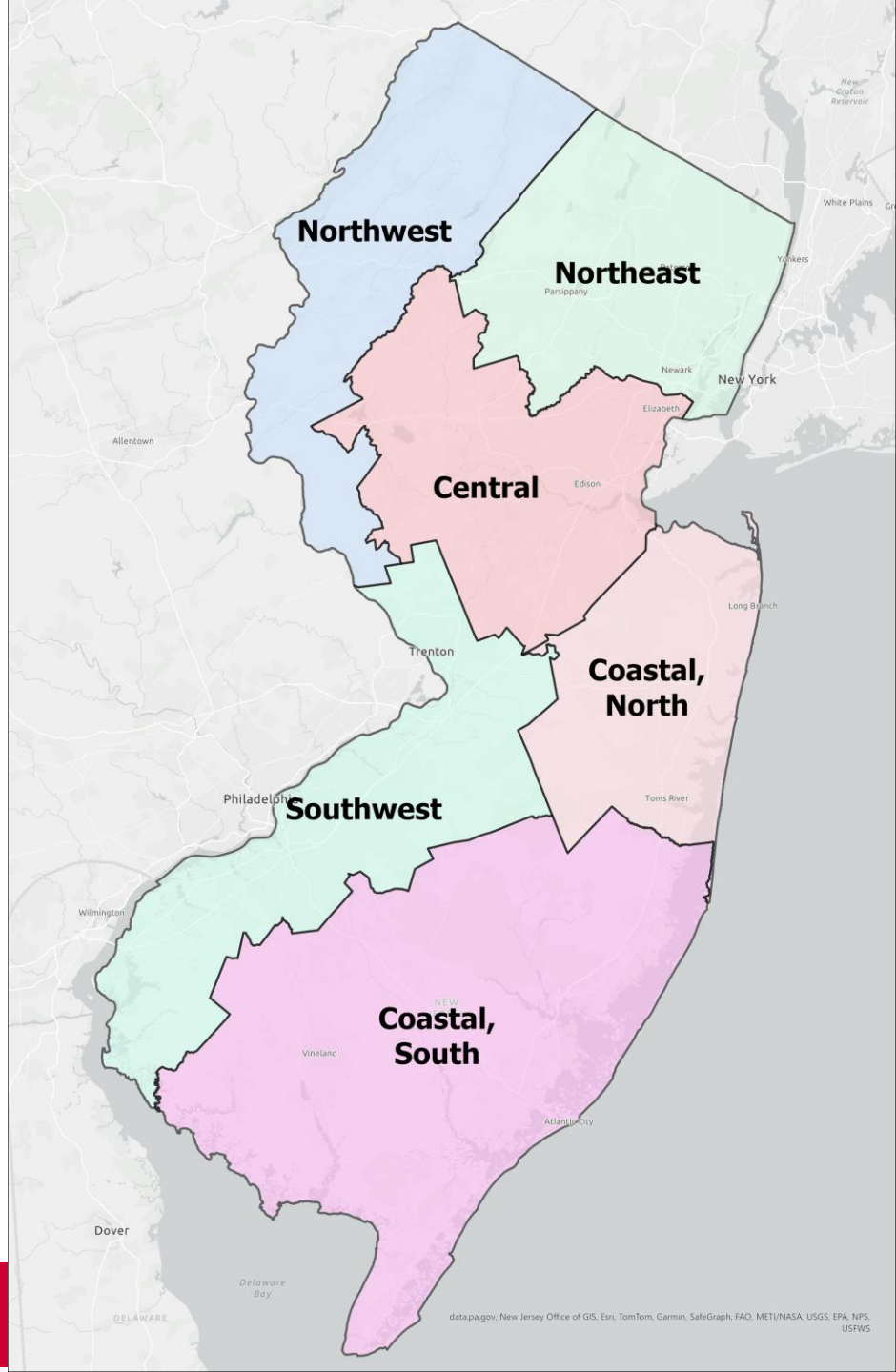
Impacts of Climate Change on Extreme Rainfall Events

- Storms of a given intensity are expected to have greater rainfall amounts
- Storms of a given intensity are expected to occur more frequently

Source: Northeast Regional Climate Center at Cornell University through their Applied Climate Information System (ACIS, http://rcc-acis.org)

New Jersey Projected Drought

Percent Time Annually In Drought Conditions			
Drought Region	**Modeled Historic**	**Moderate Emissions Scenario**	
		Mid-Century (2014-2070)	***End-Century (2071-2100)***
Central	15.3%	+0.3%	+4.1%
Coastal North	15.2%	+1.3%	+4.8%
Coastal South	15.5%	+2.8%	+6.0%
Northeast	15.9%	-1.1%	+2.3%
Northwest	15.2%	+0.2%	+6.2%
Southwest	15.3%	+3.1%	+4.4%



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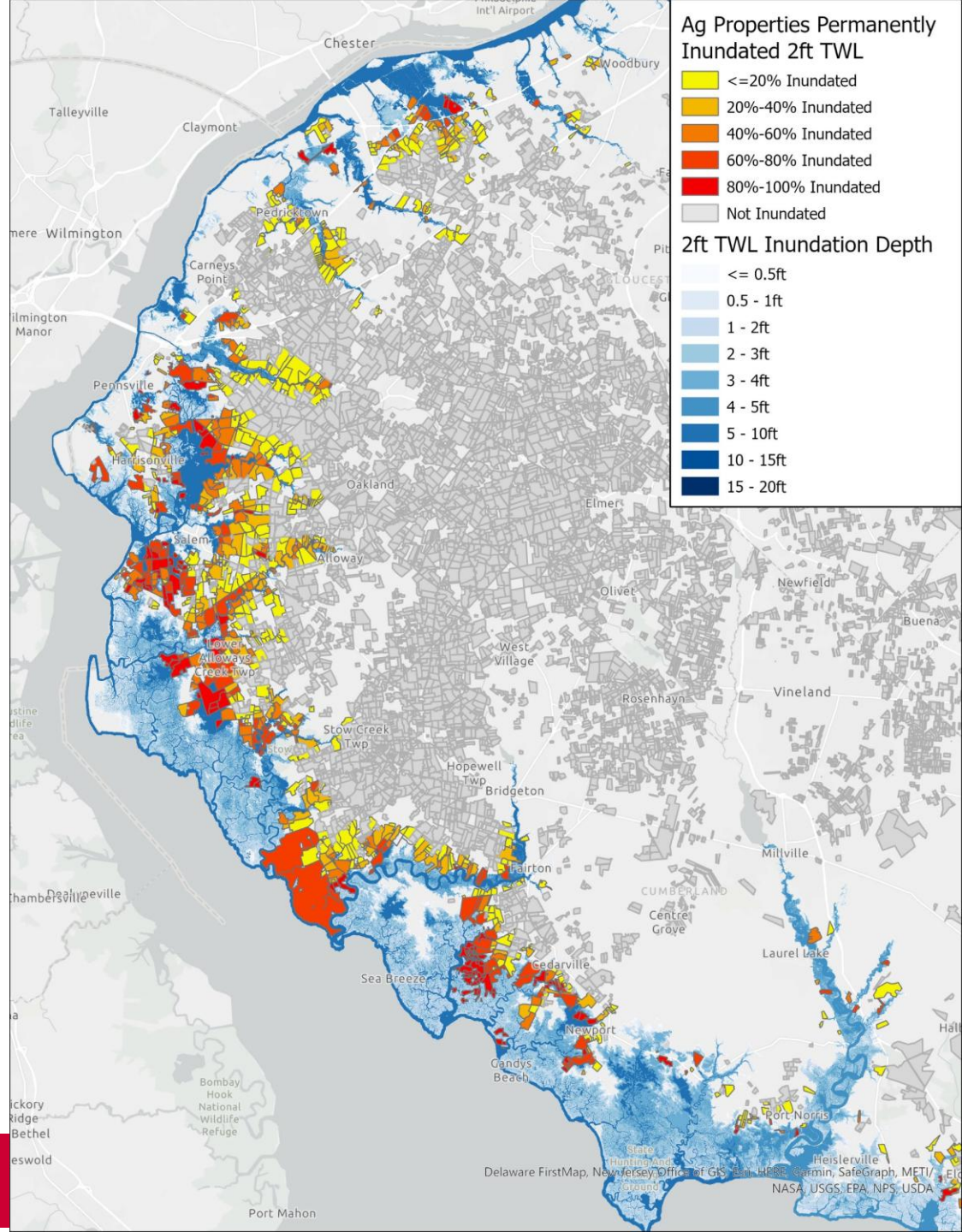
Source: New Jersey Climate Change Resource Center

Agricultural Properties Permanently Inundated by 2ft SLR/TWL

- 1,264 Properties Affected
  - 549 <=25% inundated
  - 210 properties 20%-40% inundated
  - 149 properties 40%-60% inundated
  - 152 Properties 60%-80% inundated
  - 204 properties 80%-100% inundated



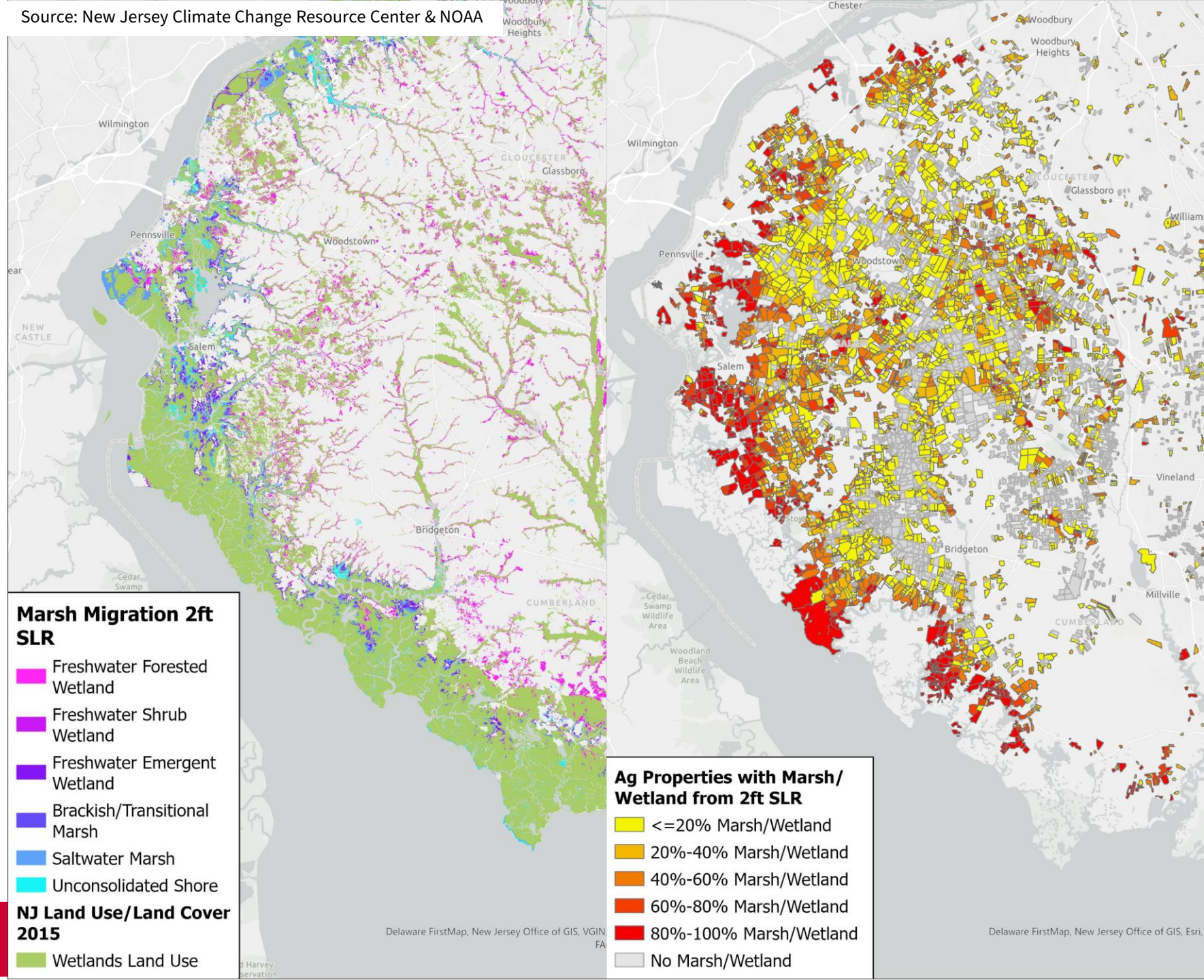
Source: New Jersey Climate Change Resource Center & NJ Office of GIS

Marsh Retreat/Conversion 2ft SLR

- Due to SLR, marshes will retreat/convert
  - Freshwater marshes may become brackish or saltwater
  - Conversion of forest land to ghost forests
  - Previously dry land converts to freshwater marsh

- 10,311 Properties with Marsh/Wetland
  - 5,134 <=25% Area Marsh/Wetland
  - 2,077 properties 20%-40% Area Marsh/Wetland
  - 1,217 properties 40%-60% Area Marsh/Wetland
  - 740 Properties 60%-80% Area Marsh/Wetland
  - 1,143 properties 80%-100% Area Marsh/Wetland

Source: New Jersey Climate Change Resource Center & NOAA



Thank You!

QUESTIONS?

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