

Table S4. Increases in developed land and maximum potential for realized social costs of carbon (C) due to complete loss of total soil carbon (TSC) of developed land by soil order and region in New York State (USA) from 2001 to 2016.

Region	Degree of Weathering and Soil Development						
	Slight			Moderate		Strong	
	Entisols	Inceptisols	Histosols	Alfisols	Mollisols	Spodosols	Ultisols
	Developed Area Increase between 2001 and 2016 (km ²) Midpoint Complete Loss of Total Soil Carbon (kg) Midpoint SC-CO ₂ (\$ = USD)						
Western New York	2.6	22.4	0.1	29.9	1.5	0	0.1
56.6 km ² (7.5 × 10 ⁸ kg C)	3.4 × 10 ⁷	3.1 × 10 ⁸	9.6 × 10 ⁶	3.5 × 10 ⁸	3.6 × 10 ⁷	0	5.3 × 10 ⁵
\$142.7M	\$5.7M	\$52.9M	\$1.6M	\$68.1M	\$6.1M	\$0	\$89,639.7
Finger Lakes	5.6	9.5	0.1	40.8	0.1	0	0
56.1 km ² (7.0 × 10 ⁸ kg C)	7.1 × 10 ⁷	1.3 × 10 ⁸	1.7 × 10 ⁷	4.8 × 10 ⁸	3.6 × 10 ⁶	0	0
\$118.8M	\$12.0M	\$22.2M	\$2.9M	\$81.1M	\$606,235.7	\$0	\$0
Southern Tier	1.8	10.6	0	4.2	0	0	0
16.6 km ² (2.2 × 10 ⁸ kg C)	2.3 × 10 ⁷	1.5 × 10 ⁸	0	4.8 × 10 ⁷	0	0	0
\$37.1M	\$3.9M	\$25.1M	\$0	\$8.1M	\$0	\$0	\$0
Central New York	2.6	8.1	0.3	25.5	0.1	0.3	0
36.9 km ² (4.8 × 10 ⁸ kg C)	3.4 × 10 ⁷	1.1 × 10 ⁸	3.1 × 10 ⁷	3.0 × 10 ⁸	2.9 × 10 ⁶	3.9 × 10 ⁶	0
\$81.7M	\$5.7M	\$19.0M	\$5.2M	\$50.7M	\$496,358.9	\$652,299.5	\$0
North Country	6.6	8.9	0	6.5	1.0	5.9	0
28.9 km ² (3.8 × 10 ⁸ kg C)	8.4 × 10 ⁷	1.3 × 10 ⁸	0	7.6 × 10 ⁷	2.3 × 10 ⁷	7.5 × 10 ⁷	0
\$64.8M	\$14.1M	\$21.2M	\$0	\$12.9M	\$3.8M	\$12.8M	\$0
Mohawk Valley	2.9	6.9	0	6.1	0.2	0.2	0
16.3 km ² (2.1 × 10 ⁸ kg C)	3.7 × 10 ⁷	9.6 × 10 ⁷	0	7.2 × 10 ⁷	2.5 × 10 ⁶	3.3 × 10 ⁶	0
\$35.5M	\$6.2M	\$16.2M	\$0	\$12.1M	\$416,789.2	\$554,872.5	\$0
Capital District	36.6	31.7	0	19.1	0.5	0.2	0
88.1 km ² (1.1 × 10 ⁹ kg C)	4.7 × 10 ⁸	4.4 × 10 ⁸	0	2.3 × 10 ⁸	1.2 × 10 ⁷	1.7 × 10 ⁶	0
\$194.3M	\$79.3M	\$74.4M	\$0	\$37.9M	\$2.1M	\$449,189.9	\$0
Hudson Valley	10.5	125.5	0.4	2.4	0.1	0	0
138.9 km ² (2.0 × 10 ⁹ kg C)	1.3 × 10 ⁸	1.8 × 10 ⁹	4.3 × 10 ⁷	2.8 × 10 ⁷	2.6 × 10 ⁶	0	0
\$331.3M	\$22.7M	\$296.3M	\$7.2M	\$4.7M	\$435,735.0	\$0	\$0
New York City	3.0	9.2	0	0.3	0	0	0
12.5 km ² (1.7 × 10 ⁸ kg C)	3.8 × 10 ⁸	1.3 × 10 ⁸	0	3.5 × 10 ⁶	0	0	0
\$54.4M	\$6.5M	\$47.3M	\$0	\$597,000.0	\$0	\$0	\$0
Long Island	18.5	29.5	0.2	0	0	0.2	0
48.4 km ² (6.8 × 10 ⁸ kg C)	2.4 × 10 ⁸	4.1 × 10 ⁸	2.9 × 10 ⁷	0	0	2.6 × 10 ⁶	0
\$114.9M	\$40.2M	\$69.5M	\$4.8M	\$0	\$0	\$434,000.0	\$0
Totals	90.6	262.2	1.3	134.8	3.5	6.7	0.1
499.2 km ² (6.7 × 10 ⁹ kg C)	1.2 × 10 ⁹	3.7 × 10 ⁹	1.3 × 10 ⁸	1.6 × 10 ⁹	8.3 × 10 ⁷	8.8 × 10 ⁷	5.3 × 10 ⁵
\$1.1B	\$196.4M	\$644.1M	\$29.7M	\$276.5M	\$13.9M	\$14.9M	\$89,639.7

Note: Entisols, Inceptisols, Alfisols, Mollisols, Spodosols, and Ultisols are mineral soils. Histosols are mostly organic soils.