

**Table S1.** Distribution of soil carbon regulating ecosystem services in the state of New York (USA) by soil order.

Parameter	2016 Total	Degree of Weathering and Soil Development						
		Slight			Moderate		Strong	
		Entisols	Inceptisols	Histosols	Alfisols	Mollisols	Spodosols	Ultisols
<b>2016 Area (km<sup>2</sup>)</b>	120,649.8	7307.3	65,119.8	3529.9	20,648.1	871.6	22,584.7	588.5
<b>Soil organic carbon (SOC):</b>								
Minimum (kg)	$5.4 \times 10^{11}$	$1.3 \times 10^{10}$	$1.8 \times 10^{11}$	$2.3 \times 10^{11}$	$4.7 \times 10^{10}$	$5.1 \times 10^9$	$6.5 \times 10^{10}$	$1.1 \times 10^9$
Midpoint (kg)	$1.6 \times 10^{12}$	$5.8 \times 10^{10}$	$5.8 \times 10^{11}$	$4.9 \times 10^{11}$	$1.5 \times 10^{11}$	$1.2 \times 10^{10}$	$2.8 \times 10^{11}$	$4.2 \times 10^9$
Maximum (kg)	$3.0 \times 10^{12}$	$1.2 \times 10^{11}$	$1.1 \times 10^{12}$	$8.6 \times 10^{11}$	$2.9 \times 10^{11}$	$2.0 \times 10^{10}$	$5.8 \times 10^{11}$	$8.2 \times 10^9$
Minimum (SC-CO <sub>2</sub> , \$, USD)	$9.1 \times 10^{10}$	$2.2 \times 10^9$	$3.1 \times 10^{10}$	$3.8 \times 10^{10}$	$8.1 \times 10^9$	$8.7 \times 10^8$	$1.1 \times 10^{10}$	$1.9 \times 10^8$
Midpoint (SC-CO <sub>2</sub> , \$, USD)	$2.7 \times 10^{11}$	$9.9 \times 10^9$	$9.8 \times 10^{10}$	$8.3 \times 10^{10}$	$2.6 \times 10^{10}$	$2.0 \times 10^9$	$4.7 \times 10^{10}$	$7.1 \times 10^8$
Maximum (SC-CO <sub>2</sub> , \$, USD)	$5.1 \times 10^{11}$	$1.9 \times 10^{10}$	$1.9 \times 10^{11}$	$1.5 \times 10^{11}$	$4.9 \times 10^{10}$	$3.4 \times 10^9$	$9.7 \times 10^{10}$	$1.4 \times 10^9$
<b>Soil inorganic carbon (SIC):</b>								
Minimum (kg)	$2.1 \times 10^{11}$	$1.4 \times 10^{10}$	$1.6 \times 10^{11}$	$2.1 \times 10^9$	$2.7 \times 10^{10}$	$4.3 \times 10^9$	$4.5 \times 10^9$	0.0
Midpoint (kg)	$4.9 \times 10^{11}$	$3.5 \times 10^{10}$	$3.3 \times 10^{11}$	$8.5 \times 10^9$	$8.9 \times 10^{10}$	$1.0 \times 10^{10}$	$1.4 \times 10^{10}$	0.0
Maximum (kg)	$8.4 \times 10^{11}$	$6.1 \times 10^{10}$	$5.5 \times 10^{11}$	$1.8 \times 10^{10}$	$1.7 \times 10^{11}$	$1.7 \times 10^{10}$	$2.5 \times 10^{10}$	0.0
Minimum (SC-CO <sub>2</sub> , \$, USD)	$3.6 \times 10^{10}$	$2.3 \times 10^9$	$2.7 \times 10^{10}$	$3.5 \times 10^8$	$4.5 \times 10^9$	$7.2 \times 10^8$	$6.8 \times 10^8$	0.0
Midpoint (SC-CO <sub>2</sub> , \$, USD)	$8.2 \times 10^{10}$	$6.0 \times 10^9$	$5.6 \times 10^{10}$	$1.4 \times 10^9$	$1.5 \times 10^{10}$	$1.7 \times 10^9$	$2.3 \times 10^9$	0.0
Maximum (SC-CO <sub>2</sub> , \$, USD)	$1.4 \times 10^{11}$	$1.0 \times 10^{10}$	$9.2 \times 10^{10}$	$3.0 \times 10^9$	$2.8 \times 10^{10}$	$2.9 \times 10^9$	$4.3 \times 10^9$	0.0
<b>Total soil carbon (TSC):</b>								
Minimum (kg)	$7.5 \times 10^{11}$	$2.7 \times 10^{10}$	$3.5 \times 10^{11}$	$2.3 \times 10^{11}$	$7.4 \times 10^{10}$	$9.4 \times 10^9$	$7.0 \times 10^{10}$	$1.1 \times 10^9$
Midpoint (kg)	$2.1 \times 10^{12}$	$9.4 \times 10^{10}$	$9.1 \times 10^{11}$	$5.0 \times 10^{11}$	$2.4 \times 10^{11}$	$2.2 \times 10^{10}$	$2.9 \times 10^{11}$	$4.2 \times 10^9$
Maximum (kg)	$3.8 \times 10^{12}$	$1.8 \times 10^{11}$	$1.7 \times 10^{12}$	$8.8 \times 10^{11}$	$4.6 \times 10^{11}$	$3.7 \times 10^{10}$	$6.0 \times 10^{11}$	$8.2 \times 10^9$
Minimum (SC-CO <sub>2</sub> , \$, USD)	$1.3 \times 10^{11}$	$4.5 \times 10^9$	$5.8 \times 10^{10}$	$3.8 \times 10^{10}$	$1.3 \times 10^{10}$	$1.6 \times 10^9$	$1.2 \times 10^{10}$	$1.9 \times 10^8$
Midpoint (SC-CO <sub>2</sub> , \$, USD)	$3.5 \times 10^{11}$	$1.6 \times 10^{10}$	$1.5 \times 10^{11}$	$8.5 \times 10^{10}$	$4.1 \times 10^{10}$	$3.7 \times 10^9$	$4.9 \times 10^{10}$	$7.1 \times 10^8$
Maximum (SC-CO <sub>2</sub> , \$, USD)	$6.5 \times 10^{11}$	$3.0 \times 10^{10}$	$2.8 \times 10^{11}$	$1.5 \times 10^{11}$	$7.7 \times 10^{10}$	$6.2 \times 10^9$	$1.0 \times 10^{11}$	$1.4 \times 10^9$