Appendix S8. Downscaled daily cumulative precipitation estimates from nine CMIP5 climate models under the RCP 4.5 and RCP 8.5 scenarios and corresponding projected annual TN export for the Coastal Plain and Piedmont watersheds. Average values across all climate models are also included. Expert-derived estimates of watershed TN export for a range of storm sizes were combined with CMIP5-based projections of rain event sizes to model annual TN export using Monte Carlo simulations (see text for modeling details). Values are bootstrapped medians and 95% CIs. The Coastal Plain watershed (1.5 km^2) was smaller than the Piedmont watershed (3.5 km^2).

	RCP 4.5				RCP 8.5			
	Rain event size (mm)		Annual TN load (kg)		Rain event size (mm)		Annual TN load (kg)	
Model	1990-2019	2050-2079	1990-2019	2050-2079	1990-2019	2050-2079	1990-2019	2050-2079
				Coastal Plain				
CCSM4	9.4 (0.3-95.4)	11.1 (0.3-98.1)	102 (55-180)	108 (60-261)	9.2 (0.3-88.9)	10.4 (0.3-98.7)	98 (55-170)	114 (57-183)
CNRM-CM5	9.8 (0.3-83.7)	9.9 (0.3-84.2)	98 (62-153)	98 (62-194)	10.4 (0.3-89.2)	9.8 (0.3-98.9)	94 (63-198)	100 (56-250)
CSIRO-Mk3-6-0	9.6 (0.3-87.2)	12.3 (0.3-105.0)	85 (54-195)	119 (70-196)	9.5 (0.3-80.0)	10.5 (0.3-105.0)	86 (57-187)	109 (56-226)
HadGEM2-CC	9.9 (0.3-88.7)	10.5 (0.3-112.0)	93 (56-187)	104 (52-239)	9.5 (0.3-88.6)	9.6 (0.3-110.0)	102 (54-153)	117 (57-185)
INMCM4	10.2 (0.3-89.2)	10.3 (0.3-92.9)	96 (62-158)	92 (55-181)	11.6 (0.3-98.9)	12.2 (0.3-116.0)	93 (55-185)	124 (68-249)
IPSL-CM5A-LR	10.3 (0.3-95.0)	10.3 (0.3-101.0)	94 (57-199)	107 (55-196)	10.5 (0.3-86.1)	11.0 (0.3-128.0)	89 (54-163)	117 (51-296)
MIROC5	10.4 (0.3-84.0)	10.8 (0.3-95.8)	86 (57-213)	111 (66-241)	9.9 (0.3-93.7)	11.4 (0.3-104.0)	96 (60-167)	103 (63-250)
MPI-ESM-LR	10.9 (0.3-92.7)	11.1 (0.4-104.0)	95 (54-176)	98 (56-251)	9.5 (0.3-89.5)	10.1 (0.3-92.7)	96 (48-153)	91 (49-186)
MRI-CGCM3	9.7 (0.3-75.9)	10.4 (0.3-82.9)	84 (54-143)	87 (57-146)	9.6 (0.3-79.3)	11.4 (0.3-94.5)	90 (51-193)	98 (55-166)
Model average	10.0 (0.3-87.3)	10.7 (0.3-96.8)	93 (57-181)	101 (58-216)	9.9 (0.3-88.7)	10.7 (0.3-104.0)	93 (54-177)	109 (56-232)
				Piedmont				
CCSM4	10.5 (0.7-89.4)	12.4 (0.6-92.5)	2277 (1278-3971)	2298 (1192-6526)	10.3 (0.7-89.2)	12.9 (0.7-97.7)	2219 (1260-4050)	3014 (1428-4831)
CNRM-CM5	12.2 (0.7-88.1)	12.2 (0.7-88.6)	2218 (1351-3776)	2279 (1325-5372)	12.7 (0.6-87.5)	11.9 (0.6-94.7)	2316 (1300-4099)	2490 (1322-6400)
CSIRO-Mk3-6-0	11.4 (0.7-85.8)	14.1 (0.7-94.9)	2037 (871-5121)	3058 (1491-5056)	11.4 (0.6-73.5)	13.3 (0.6-91.5)	1882 (862-3989)	2374 (1163-5235)
HadGEM2-CC	12.1 (0.6-88.0)	12.7 (0.6-104.0)	2097 (1419-4076)	2577 (1248-5788)	11.6 (0.6-83.4)	12.2 (0.6-123.0)	2169 (1154-3338)	2987 (1277-5834)
INMCM4	12.1 (0.7-86.5)	12.0 (0.7-90.6)	2163 (1371-4000)	1983 (1285-4061)	12.8 (0.7-97.3)	12.3 (0.6-109.0)	2373 (1400-4458)	2682 (1629-5577)
IPSL-CM5A-LR	13.6 (0.6-92.3)	14.0 (0.7-103.0)	2189 (1021-4556)	2655 (1838-4297)	13.2 (0.6-97.9)	14.5 (0.6-126.0)	2158 (1216-4925)	3153 (1354-6990)
MIROC5	12.4 (0.6-83.8)	12.4 (0.6-95.0)	1961 (1387-4201)	2523 (1472-4655)	12.0 (0.6-86.1)	14.2 (0.6-110.0)	2200 (1239-4490)	2964 (1313-9222)
MPI-ESM-LR	11.1 (0.6-86.9)	14.0 (0.6-95.9)	2016 (1348-4208)	2515 (1529-4856)	10.9 (0.6-93.5)	13.1 (0.6-104.0)	2275 (1345-4200)	2498 (1607-6072)
MRI-CGCM3	11.1 (0.6-71.2)	11.9 (0.6-80.1)	1695 (1155-3923)	1842 (1077-3595)	11.4 (0.6-69.5)	13.6 (0.7-88.7)	1739 (863-4527)	2544 (1157-5244)
Model average	11.8 (0.6-85.6)	12.8 (0.6-93.8)	2081 (1233-4082)	2389 (1276-5208)	11.7 (0.6-86.3)	13.0 (0.6-105.0)	2153 (1169-4287)	2726 (1313-5898)