Appendix 1. Sensitivity analyses.

Given that the decisions taken in the process of weighing the indicators equally could be unclear, we ran a sensitivity analysis to check the robustness of our findings. A sensitivity analysis is a repeat of the primary analysis but uses alternative decisions (or weights) to check uncertainty in the output of a mathematical model (Deeks et al. 2008, Nardo et al. 2008). It is also used to prove that the findings are not dependent on arbitrary decisions.

We chose four weighting schemes to check how each component contributes to estimating index values. In addition to assigning the same weight to the three components (equal weight), we also calculated the index by emphasizing one dimension at a time. We did that by assigning a ½ weight to the emphasized component and ¼ to the remaining two. This alternative was run three times: once for each emphasized component. Although the weight variations changed index values (Table A3.1), rankings of the coastal states where the index was tested were very similar. In other words, looking at the most and least vulnerable coastal states across weighting schemes, the states of CE, AP, and RN are among the most vulnerable and the states of AL, PR, and PA are the least vulnerable.

Table A1.1: Components and index values in the weighting scheme: equal weight (same weight among components), Emphasis AC (AC component weighing ½ and the other two weighing ¼), Emphasis SP (SP component weighing ½ and the other two weighing ¼), and Emphasis ECO (ECO component weighing ½ and the other two weighing ¼). AC = Adaptive capacity; SP = Species vulnerability; ECO = Ecosystem vulnerability; ICV = Index of Coastal Vulnerability. Highlighting the most vulnerable states (italic) and the least vulnerable states (bold).

	Components			ICV values			
States	AC	SP	ECO	Equal weight	Emphasis AC	Emphasis SP	Emphasis ECO
Amapá (AP)	0.51	0.59	0.80	0.98	0.095	0.369	0.421
Pará (PA)	0.83	0.60	0.80	**0.63**	**-0.064**	**0.291**	**0.343**
Maranhão (MA)	0.82	0.54	0.90	**0.68**	**-0.051**	**0.288**	**0.379**
Piauí (PI)	0.83	0.58	0.96	0.79	-0.029	0.321	0.418
Ceará (CE)	0.71	0.63	0.98	1.00	0.049	0.381	0.470
Rio Grande do Norte (RN)	0.64	0.51	0.98	0.94	0.053	0.340	0.458
Paraíba (PB)	0.53	0.59	0.60	0.73	0.033	0.313	0.315
Pernambuco (PE)	0.50	0.57	0.60	0.74	0.041	0.308	0.316
Alagoas (AL)	0.82	0.51	0.60	**0.33**	**-0.130**	**0.201**	**0.224**
Sergipe (SE)	0.64	0.48	0.98	0.91	0.046	0.324	0.450
Bahia (BA)	0.70	0.50	0.99	0.88	0.024	0.323	0.444
Espírito Santo (ES)	0.74	0.50	0.96	0.81	-0.003	0.306	0.421
Rio de Janeiro (RJ)	0.88	0.60	0.97	0.77	-0.048	0.323	0.415
São Paulo (SP)	0.83	0.62	0.84	**0.70**	**-0.049**	**0.311**	**0.368**
Paraná (PR)	0.74	0.40	0.90	**0.61**	**-0.048**	**0.236**	**0.361**
Santa Catarina (SC)	0.64	0.53	0.90	0.87	0.038	0.328	0.420
Rio Grande do Sul (RS)	0.88	0.62	0.85	**0.65**	**-0.073**	**0.300**	**0.358**

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