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# Brazil undermines flood resilience

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In September, heavy rains caused substantial flooding in Brazil's state of Rio Grande do Sul (1). In the past 2 years, similar events have occurred in the states of São Paulo (2), Rio de Janeiro (3), Minas Gerais, Espírito Santo, Tocantins, Bahia, Piauí, Pará, and Maranhão (4, 5). Heavy rains and flooding events are expected to increase as global warming continues (6, 7). Therefore, President Luiz Inácio Lula da Silva's administration must update the country's laws to account for the effects of climate change.

In 2021, during the previous administration, Brazil's President Jair Bolsonaro signed Bill 2510/2019 into Law 14,285/2021 (8). The legislation removed the federal restrictions (enumerated in Law 12,651/2012) that were in place to protect from development strips of land ranging from 30 to 500 m in width along watercourses in urban areas (9). Before the changes, for example, a 30-m strip was protected on each side of a stream under 10 m in width (9).

The new guidelines permit local governments to allow houses or other infrastructure in areas near watercourses (8). As a result, many municipalities have already declared that buildings can be built closer to the banks of rivers and streams; some have established distances as small as 5 m (10). Riverbanks are the areas most vulnerable to extreme weather events [e.g., (3)]. Many existing houses and other structures are already very close to watercourses, posing risks to humans in the case of floods.

Instead of increasing the risks caused by extreme events, Brazil should be working to increase the land's resilience to flooding. Riparian vegetation—which will also be extirpated under the new law—protects watercourses (11), regulates flow, and helps limit damage from extreme climatic events. In addition to passing a new law to revoke Law 14,285/2021 (12), Brazil urgently needs policies to restore areas along streams and rivers (12) that are occupied or paved. The laws and public policies in Brazil should strengthen environmental protection and reaffirm the country's commitments to international environmental treaties.

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