



## **High-income does not protect against hurricane losses**

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Damage due to tropical cyclones accounts for more than 50% of all meteorologically-induced economic losses worldwide. Their nominal impact is projected to increase substantially as the exposed population grows, per capita income increases, and anthropogenic climate change manifests. So far, historical losses due to tropical cyclones have been found to increase less than linearly with a nation's affected gross domestic product (GDP). Here we show that for the Eastern United States this scaling is caused by a sub-linear increase with affected population while relative losses scale super-linearly with per capita income. The finding is robust across a multitude of empirically derived damage models that link the storm's wind speed, exposed population, and per capita GDP to reported losses. The separation of both socio-economic predictors strongly affects the projection of potential future hurricane losses. Separating the effects of growth in population and per-capita income, per hurricane losses with respect to national GDP are projected to triple by the end of the century under high greenhouse gas emissions while they are only estimated to rise marginally without the separation.