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THE EXTREME COSTS OF CLIMATE CHANGE AND THE LOSS AND DAMAGE FUND



New Zealand's vulnerability to natural disasters like earthquakes and floods highlights the urgency of studying disaster economics in the climate change era. My research aims to guide resilience policies by examining these events' economic impacts and mitigation strategies.

Context:

In Aotearoa New Zealand, 2023 has been an especially disastrous year. The insured costs associated with the Auckland Anniversary floods in January and extratropical cyclone Gabrielle in February likely amounted to more than the costs associated with all the weather events that occurred in the country in the previous quarter century.

Climate Change Footprint:

Methods for identifying the climate change footprint and attributing individual extreme weather events to climatic change have been developed over the last two decades by climate scientists. More recently, and with many colleagues, we have been using this attribution method, in combination with information about the socio-economic impacts of extreme weather events, to link climate change to its impacts on economies and societies. This **Extreme Event Impacts Attribution (EEIA)** approach adds to existing methods of quantifying the costs of gradual climate change, such as the ones associated with sea-level rise or ocean acidification.



Economic Costs:

The macro-national aggregate damages from extreme weather events that are caused by climate change over the last two decades were dominated by a small number of catastrophic disasters in each country. These were triggered by tropical cyclones (hurricanes), floods, and heatwaves, all well modelled in the context of attribution.

Significance:

Together with several colleagues, we recently argued that EEIA is the best tool currently available to measure loss and damage and inform the United Nations' Loss and Damage process.



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