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## An inventory of extreme events and their impacts: implications for changing risks and climate adaption

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Extreme weather of increasing intensity and frequency is the sharp edge of climate change. Greater understanding of exactly how the risks to people and property from such events are changing is therefore of considerable value to society; it enables the effective allocation of resources for adaption planning and provides a foundation for cost-benefit analysis of mitigation policy. Moreover, the first global stocktake following the Paris Agreement aims to comprehensively detail climate change-related loss and countries' adaption ambition. Thus there is a clear imperative for greater understanding of the drivers of extreme weather risks.

To this end, the emerging field of Extreme Event Attribution (EEA) is becoming increasingly able to attribute the specific meteorological conditions (or even the impacts) of an event to human-induced climate change. This provides a tangible, evidence-based bridge between the global phenomenon of climate change and the scales at which people live and decisions are made. However, EEA studies are currently undertaken on an ad-hoc basis, in part due to discrepancies in data availability in different regions but also the lack of comprehensive, coordinated efforts. To provide greater utility to vital policy questions, insights from EEA need to be integrated into a wider system for documenting past events and understanding drivers of change.

In accordance with this, we propose a standardised framework for recording historical extreme weather events in an inventory structure. In our method, existing hazard-loss databases such as EMDAT provide a basis for event selection and give some basic impact details. Then, additional impact information, as well as detail about the process chain leading from antecedent conditions to impacts (the 'event narrative'), is researched from a range of academic, government and NGO sources. Finally, existing attribution literature provides the link, or lack thereof, to human climate change. The comprehensive nature of such an inventory will align with the remit of the global stocktaking process, and offers a new and valuable perspective for understanding and adapting to changing risks at both national and sub-national scales.

To demonstrate the framework, we will here present inventories of past extreme weather events for the UK and the Caribbean in the period 2000-2019. Specifically, we will explore the logic and methodology behind the inventory framework, and use these examples to consider potential applications as well as foreseen drawbacks to the concept.

