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## Storylines of high-impact climate events

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High-impact climate events are generally expected to be exacerbated by climate change. For heatwaves, heavy precipitation, and evaporatively-driven drought, the IPCC AR6 made very strong general statements about changes in hazard. But as soon as one attempts to attribute high-impact climate events, the particular details of those events (which are inevitably compound events) and of the human-managed environment take centre stage. Because real-world events are not independent and identically distributed, one cannot reliably apply a general statement to a particular event. This basic aspect of statistical inference, widely recognized in other fields, seems not well appreciated within the climate science community. Physical climate storylines (physically-based unfoldings of past climate or weather events, or of plausible future events or pathways) offer a way to respect the complexity of high-impact climate events and the multiple causal factors involved, of which climate change will only be one. Indeed, identifying the non-climatic factors that affect vulnerability and exposure is essential for good decision-making around climate adaptation. In this talk I will describe the rationale behind the use of storylines for high-impact climate events from the broader perspective of attribution, and explain how conditional attribution allows probability and risk to enter in a physically interpretable and meaningful way.