



Understanding the role of compound events in climate extremes

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Climate variables give rise to hazards such as cyclones, floods and fires where an extreme impact is the result of a combination of variables rather than any one variable being in an extreme state in isolation. The combination of variables is termed a compound event and the nature of any given compound event will depend upon the variety of physical variables, the range of spatial and temporal scales over which they are linked, the strength of dependence between processes, and the interest of the stakeholder in defining the impact. Modelling compound events is a large, complex and inter-disciplinary undertaking and to facilitate this task influence diagrams are proposed for better defining, mapping, analysing, modelling and communicating the behaviour of the compound event. Ultimately, the greater appreciation of compound events will lead to greater insight and a changed perspective on how impact risks are associated with climate related hazards.