Exploring predictability of extreme climate events via a complex network approach

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Abstract:
The Earth system is a very complex and dynamical one basing on various feedbacks. This makes predictions and risk analysis even of very strong (sometimes extreme) events as floods, landslides, heatwaves, earthquakes etc. a challenging task. Here I will introduce a recently developed approach via complex networks mainly to analyze strong climate events. It is shown how this new method can reveal new insights into the underlying mechanisms which enables us to construct substantially better predictions, in particular of strong rainfall in Bolivia, of the onset of the Indian Summer Monsoon and El Nino strength.

References:
J. Runge et al., Nature Communications 6, 8502 (2015)