



Mechanism Connecting African and Indian Monsoon Megadroughts

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There are many factors and mechanisms capable to influence and perturb rainfall in both African and Indian monsoon regions. Using observed data and ensembles of Atmospheric General Circulation Model (AGCM) simulations, evidence is presented that an association between the two systems exists on decadal timescales. Decadal variability of rainfall in the two monsoon systems results from a large scale forcing induced by an interplay of different ocean basins. The emerging pattern is characterized by warmer (cooler) equatorial and cooler (warmer) extratropical regions. This large scale forcing pattern leads to an upper-level pressure gradient that modifies the Tropical Easterly Jet, thus providing the link between the African and Indian monsoon.