



A solar variability driven monsoon see-saw: switching relationships of the Holocene East Asian-Australian summer monsoons

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The East Asian-Indonesian-Australian monsoon is the predominant low latitude monsoon system, providing a major global scale heat source. Here we apply newly developed non-linear time series techniques on speleothem climate proxies, from eastern China and northwestern Australia and establish relationships between the two summer monsoon regimes over the last ~9000 years. We identify significant variations in monsoonal activity, both dry and wet phases, at millennial to multi-centennial time scales and demonstrate for the first time the existence of a see-saw antiphase relationship between the two regional monsoon systems. Our analysis attributes this inter-hemispheric linkage to the solar variability that is effecting both monsoon systems.