

## **Detrital zircons from the Salween River: A natural boundary separating juvenile and older crustal provinces in Southeast Asia**

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This study reports new detrital zircon U-Pb and Hf isotopic data of the Salween drainage, Myanmar. Three samples, i.e., a riverbank sediment from the river's mouth, and a Late Triassic mica schist and a Permo-Triassic sandstone from central Myanmar, were analyzed, and combined with the zircon dataset from nearby areas, to investigate their source provenances and implications for regional tectonics and crustal evolution. While the P-Tr sandstone shows zircon U-Pb and Hf isotopic characteristics typical of the Sibumasu origin, the Tr schist shows a marked change in source provenance most likely from the Yangtze block. Zircons from the rivermouth sediment, despite having younger grains (<250 Ma) in abundance with an Indosinian age peak, show U-Pb and Hf isotopic characteristics similar to those of the P-Tr sandstone.

Regarding specifically for detrital zircons <250 Ma, the Salween sample shows U-Pb and Hf isotopic systematics comparable to those from other major rivers in SE Asia, e.g., the Yangtze, Red and Mekong, east of the Salween, all of which are overwhelmed with negative  $\epsilon_{\text{Hf}}(\text{T})$  values with older crustal model ages. These are in significant contrast to zircons from major rivers flowing west of the Salween, i.e., the Irrawaddy, Yalu-Tsangpo and Brahmaputra, all contain abundant grains with high and positive  $\epsilon_{\text{Hf}}(\text{T})$  values and thus younger model ages, contributed by the Gangdese and associated magmatic rocks.