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Reconstructing the role of South China in Pangea and earlier supercontinents

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From the formation of Rodinia at the end of the Mesoproterozoic through to the commencement of Pangea breakup at the end of the Paleozoic, the South China Craton first formed and then occupied a position adjacent to Western Australia and northern India. Early Neoproterozoic supra-subduction zone magmatic arc-back arc assemblages ranging in age from ~1000 Ma to 820 Ma and display a sequential northwest decrease in the age for termination of arc magmatism suggesting that the formation and closure of these arc systems resulted in progressive northwestward amalgamation of the various pieces of the Yangtze and Cathaysia onto the periphery of Rodinia. Siliciclastic units within an early Paleozoic succession that transgresses across the craton were derived from the southeast and include detritus from beyond the current limits of the craton. Detrital zircon age spectrum from sandstone units requires an East Gondwana source. The overall age spectrum is very similar to those of time-equivalent material from the Tethyan Himalaya as well as younger Paleozoic successions from Western Australia suggesting derivation a common source and by inference accumulation in linked basins along the northern margin of Gondwana, a situation that continued until rifting and breakup of the craton in the late Paleozoic.