

International Association for Gondwana Research Conference Series 17



Conference Series 17

**1st International Conference on Subduction,
Volcanism and the Evolution of Oceanic and
Continental Crust (SVEOCC 2014)**

Abstract Volume

Editor

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Jiangnan Orogen in South China: developed from divergent double subduction?

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The Jiangnan Orogen is considered as a continent-continent collisional belt resulting from the closure of a Meso-Neoproterozoic ocean separating the southeastern margin of the Yangtze Block from the northwestern margin of the Cathaysia Block. Recent data indicate the existence of early Neoproterozoic (1000-825 Ma) volcanic arc assemblages on both sides of the orogen, suggesting that the ocean lithosphere between the Yangtze and Cathaysia blocks must have undergone divergent double-sided subduction during the period of 1000-825 Ma, like what is happening in the Moluccan ocean plate within the Pacific Ocean. The divergent double subduction eventually resulted in the closure of the ocean basin at ~825 Ma,

leading to the soft collision of the Yangtze and Cathaysia blocks to form the Jiangnan Orogen, without involvement of continental deep subduction, high-grade metamorphism of continental crust and uplift/exhumation of high-grade metamorphic rocks. Shortly after the collision, the initial detachment of the ocean lithosphere from the overlying crust and sedimentary sections induced underplating of mantle magmas, triggering partial melting of accretionary-wedge strata to form some peraluminous (S-type) granites in the period 825-815 Ma. Finally, the sinking of the oceanic slab pulled down the overlying strata to form some basins in which the Banxi Group and its equivalent strata including bimodal volcanic rocks were formed in the period 815-750 Ma.