

## **RODINIA BREAKUP AND GONDWANA ASSEMBLY**

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Rodinia began to break up between 850 and 750 Ma. Widespread extension, mafic and silicic intrusions and extrusions, and sediments in associated graben, are present in many of the former Rodinia continental fragments, and preceded continental breakup between Australia and Laurentia around 775 to 755 Ma. A similar ca. 800 to 750 Ma age of continental breakup can be inferred in the East African orogen, Madagascar and India. The breakup of Rodinia led to the birth of the Paleo-Pacific ocean, and consequent contraction of the pan- Rodinia oceans between the dispersed continental Congo-Sao Francisco, Kalahari, Amazon-West Africa and Rio Plata cratons. Geologic and paleomagnetic constraints on the assembly of Gondwanaland show that Africa and South America were not assembled until ca. 550 Ma. The major sutures lie along the Brazilide orogenic belt and the East African-Madagascar-Sri Lanka-Maudheim belt in eastern Antarctica. Continental convergence leading to collision along these belts is recorded by high-grade metamorphism, contractional deformation, and reactivation of old crustal sutures between ca 610 Ma and 530 Ma. The late Neoproterozoic foreland basins in Africa, Australia, India and South America were formed by during these movements. Depending on when Laurentia broke away from Amazonia, there may have been a brief interval around the Precambrian-Phanerozoic boundary during which the supercontinent, Pannotia, occupied most of the Southern Hemisphere.