

Models of Rodinia assembly and fragmentation

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Abstract: Amongst existing palaeogeographic models of the Rodinia supercontinent, or portions thereof, arguments have focussed upon geological relations or palaeomagnetic results, but rarely both. We propose a new model of Rodinia that integrates the most recent palaeomagnetic data with current stratigraphic, geochronological, and tectonic constraints from around the world. Our new model differs from its predecessors in five major aspects: cratonic Australia is positioned in the recently proposed AUSMEX fit against Laurentia; “East Gondwanaland” is divided among several blocks; the Congo – São Francisco and India – Rayner cratons are positioned independently from Rodinia; Siberia is reconstructed against northern Laurentia, although in a different position than in all previous models; and Kalahari – Dronning Maud Land is connected with western Australia. The proposed Rodinia palaeogeography is meant to serve as a working hypothesis for future refinements.