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# Age and Basin Evolution of the Cuddapah Supergroup, India

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**Age and Basin Evolution of the Cuddapah Supergroup, India**

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**Abstract**

U-Pb zircon geochronology indicates deposition of the Cuddapah Supergroup, Cuddapah Basin, India occurred for at least 986 million years. Deposition started after  $2502\pm 17$  Ma with the deposition of the Gulcheru Formation and ended after  $913\pm 11$  Ma with the deposition of the Cumbum Formation. Maximum depositional ages have been found for individual formations within the Cuddapah Supergroup; the Pulivendla Formation has a maximum deposition of  $1899\pm 19$  Ma and the Bairenkonda Formation has a maximum depositional age of  $1660\pm 22$  Ma. Thermal events during the Palaeoproterozoic present a possible cause of basin formation. At this early stage of the Cuddapah Basin's evolution the provenance of sediments was the Dharwar Craton, which currently underlies the basin and borders it on the north, south and west sides. The uplift of the Eastern Ghats on the eastern margin affected the evolution of the Cuddapah Basin, changing the shape and the sediments of the basin. Uplift and deformation events in the Eastern Ghats folded the eastern side of the Cuddapah Basin and are responsible for its present crescent shape. The formation of the Eastern Ghats caused increased subsidence to the east, creating an asymmetry in the depth of the basin. The provenance of the sediments of the Cuddapah Supergroup changed to the Eastern Ghats for the deposition of the youngest stratigraphic group, the Nallamalai Group.