

Basement Depth Configuration Map of India

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The Indian Geology, besides being complex in nature, has larger areas of cover rocks. The cover rocks include: the Precambrian sediments of Cuddapah and its equivalent basins, the Gondwana sediments along the major rifts like Narmada Son Lineament, Mahanadi, Godavari and Damodar, the Deccan flood basalt with its largest share in the western and central India, the coastal alluvial plains of the east and the west coasts and more importantly the Indo-Gangetic plains in the northern part of India. In order to unravel the geological history of a region, the basement topography, which represents the manifestation of basement structures under the cover rocks is essential. In the present study, we compile the results of regional geophysical investigations which include deep seismic sounding, magnetotellurics, deep electrical sounding, aeromagnetics, gravity etc. and present a regional basement depth configuration map of India. The basement depth map throws light not only in bringing out the hidden Precambrian structures but also broadens the understanding of the Precambrian geological processes through space and time. The basement configuration map combined with major tectonic features and surface topography is crucial for a better understanding of the Precambrian crustal evolution of the Indian subcontinent.