

Determining the Palaeogeographic Evolution and Source to Sink Relationships of Indian Offshore Sedimentary Basins.

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Although there are a number of large sedimentary basins along the western and eastern offshore margins of the Indian Subcontinent, the hydrocarbon discoveries to date vary considerably being focused in just one or two basins on each margin. On the western margin the productive, but increasingly mature Mumbai Basin sits adjacent to the Kutch and Konkan-Kerala Basins to the north and south respectively, where little or no hydrocarbons have been discovered. Similarly, on the eastern margin, the prolific Krishna-Godavari Basin lies to the south of the Mahanadi and Bengal Basins and north of the Palar, Cauvery and Mannar Basins, again within which hydrocarbon discoveries are very limited. As the currently productive basins mature, exploration is looking to new, as yet untapped plays within these basins, or to the large expanses of the relatively unexplored basins. Understanding the detailed evolution of these basins and the controls on the development, distribution and interplay of the various components of the petroleum systems within, are key to unlocking further potential. In this presentation we demonstrate how the integration of plate modelling, detailed structural and palaeogeographic mapping and palaeodrainage analysis workflows can be applied to rigorously assess the petroleum components in the offshore sedimentary basins of India.