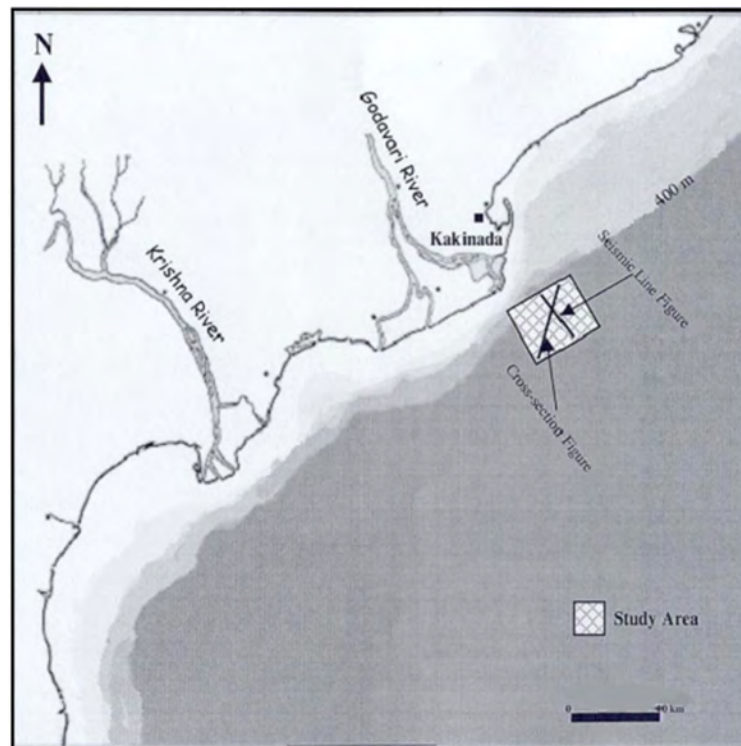


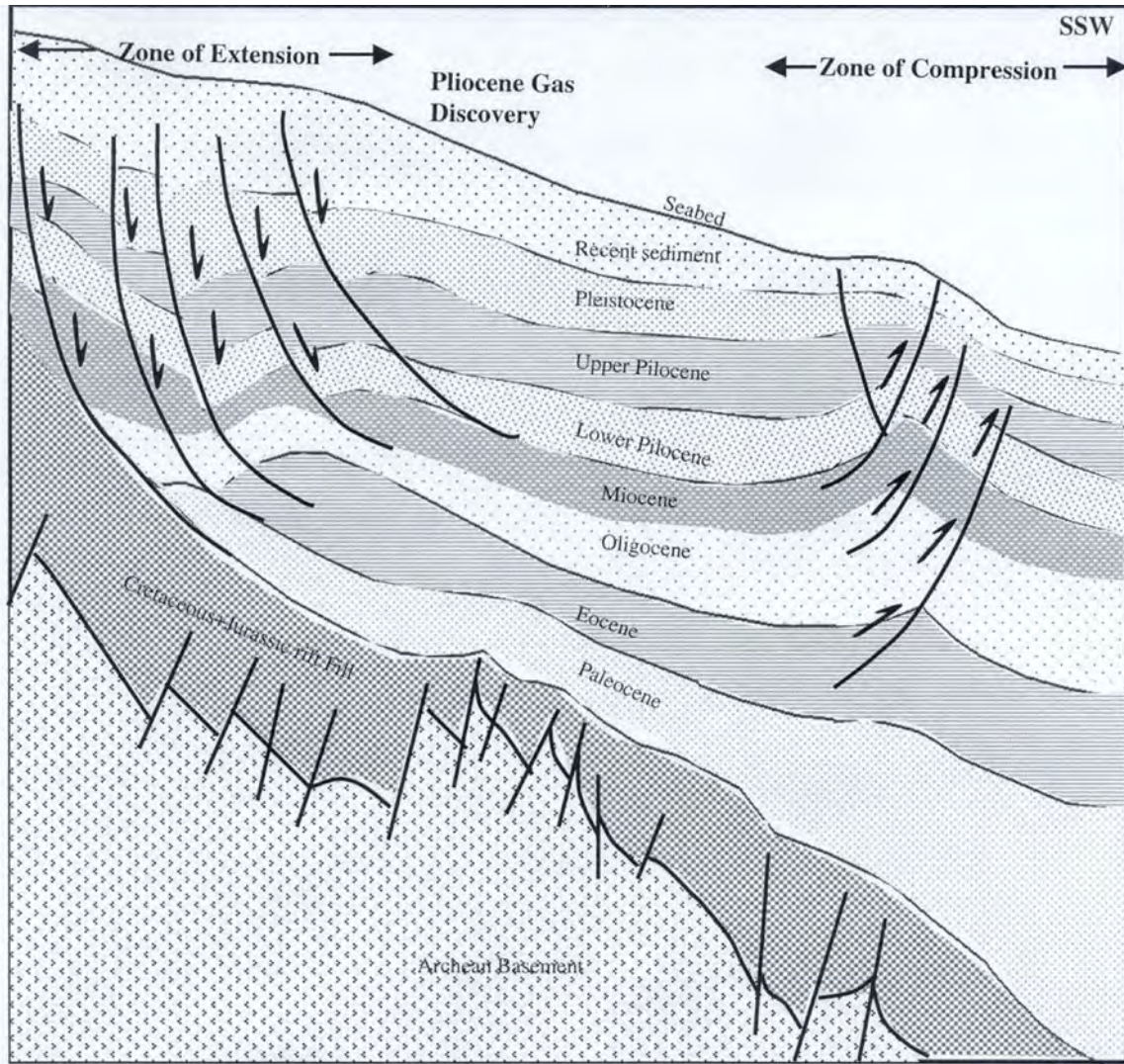
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Neogene Submarine Channels and Fans in Offshore, Godavari, East Coast, India

Krishna Godavari basin located in the East Coast of India falls in a divergent plate margin setup which evolved through rifting and subsequent drifting during Mesozoic. The rift phase has been followed by a major fluvial and marine Tertiary sedimentation. Deepwater Mio-Pliocene depositional systems in the study area of Godavari offshore are sourced by large scale erosion of the existing Miocene delta and continuous feed from the delta during hyperpycnal flow regimes. The above sedimentation pattern has been translated to an unique accommodation zone with typical association of synsedimentary listric growth faults and the toe thrust/diapiric shale movement.

This deepwater province was mapped through focussed 3D seismic which unravelled the depositional cycles, facies architecture and the associated play types. Seismic attributes such as amplitude and spectral decomposition are the key for identifying and tracking the deepwater sinuous channel complexes in the study area. AVO and LMR techniques have also been used as Direct Hydrocarbon Indicators. The sinuosity, geometry and stacking of the mapped channels are closely dependent on the paleo sea floor topography. Highly sinuous, thick vertical stacks are often associated with gentler gradient. The facies within these channels vary from pebbly beds at the base to finer sands and thinly laminated clay, silt and sand towards top of each cycle of deposition. The base of the stacked channel is always a fan like feature, the High Amplitude Reflection Packets (HARP), deposited as a fill in the basal scour. Occasional splays are also deposited breaching the channel edges.





Commercial gas has been proven in these facies association in Godavari paleo submarine channel systems and fan complexes. Exploration in deepwater frontiers of India, though is recent, has brought rich dividends in this area by the giant gas discovery.

