## Evidence of Slumping/Sliding in Krishna-Godavari Offshore Basin due to Gas/Fluid Movements

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The Krishna-Godavari (KG) offshore basin is one of the promising petroliferous basins in the eastern continental margin of India. Drilling onboard JOIDES Resolution (2006) in this basin has proved the presence of gas hydrate deposits. The multibeam swath bathymetry mosaic over this basin within the water depths of 280 to 1800 m covers an area of about 4500 Sq. Km. The mosaic depicts distinct bathymetric features resulted from shale tectonics and shallow depositional environments. Analysis of bathymetry and high resolution spaker (HRS) data in the northwestern part of study area shows the evidences of slumping and sliding of the upper slope sediments which results in mass transport deposits. These deposits exhibit widths of 3-7 km and extend offshore by about 10-13 km.

The high resolution seismic (HRS) data of about 1260 lkm shows prominent zones of acoustically transparent features a characteristic of mass transport deposits in upper and mid slope regions. Average thickness of recent mass flow deposits varies with depth; in the upper slope, the thickness is about 45 m, whereas in the lower slope it is abount 60 m and in deep offshore it attains a maximum thickness of about 90 m. The boundary of these mass flows is identified in the upper slope region by an abrupt truncation of well stratified upslope sediments. In this paper, we speculate about the origin of the observed mass transport deposits in KG offshore basin. Numerous acoustic chimneys of varying dimensions are observed in upper slope region suggesting the migration of fluid/gas through the sediment. We propose that the presence of gas in the upper slope sediments causes instability and triggers the slumping/sliding in KG offshore basin. Our results have larger implication in the generation of Tsunamis due to large scale slumping/sliding in KG basin.