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TITLE: The first record of active methane (cold) seep ecosystem associated with shallow methane hydrate from the Indian EEZ

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ABSTRACT:

Here we report the discovery of cold-seep ecosystem and shallow methane hydrates (2?3 mbsf) associated with methane gas flares in the water column from the Indian EEZ for the first time. The seep-sites are located in the Krishna?Godavari (K?G) basin at water depths of 900?1800 m and are characterized by gas flares in the water-column images. The occurrence of methane gas hydrates at very shallow depths (2?3 mbsf) at some of the seep-sites is attributed to high methane flux and conducive P?T conditions, necessary for the stability of methane hydrate. Chemosymbiont bearing Bivalves (Vesicomidae, Mytilidae, Thyasiridae and Solemyidae families); Polychaetes (Siboglinidae family) and Gastropods (Provannidae family) are also identified from seep-sites.

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