



## **Marine hyperpycnal flows in the Kaoping Canyon and Capbreton Canyon: comparisons between morphology and seismic facies**

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Seismic reflection profiles and bathymetry data collected from the Kaoping Shelf and Kaoping Slope (off SW Taiwan) revealed that distinct seismic facies of stratified sediments are most likely formed by hyperpycnal flows. Hyperpycnal flows related to the small mountainous river discharge in the canyon head move into the Kaoping Canyon, spilling over and along the sides of the canyon. Under such relatively high entrainment flows, the suspended sediment concentration increases flow density providing intense erosion near seafloor in the canyon. The hyperpycnal flows may tend to increase discharge but also shape the course of canyon into meanders. Comparisons between seismic facies and sinuosity morphology of the Kaoping Canyon and Capbreton Canyon suggest that the contribution from the Kaoping River discharge indicates hyperpycnal flows being the most important sedimentary process in the Kaoping Canyon. The hyperpycnites have accumulated probably through flood period, present a possible analog to the Capbreton Canyon. The presence of canyon formation marking hyperpycnal flows on both the Kaoping Shelf and in the Bay of Biscay, NE Atlantic suggests that similar morphology and deposits were produced along other river connected margins.