



Effect of asymmetric bedforms on tidal flows in the Weser estuary

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Compound bedforms of various shapes and sizes are ubiquitous in tidal channels, inlets and estuaries. Large primary bedforms are often asymmetric in the direction of the dominant tidal direction and have been shown to act as form roughness elements only during tidal stages when the flow is in the direction of the bedform shape. This study compiles data on the topography of compound dunes from the Weser estuary on the German Bight to discuss implications of a critical lee slope in tidal environments with reversing flow. Preliminary numerical model results reveal the effect of local asymmetric bedforms to estuarine tidal currents.