

COASTAL ACTION PLANS

Theme 5

Long term coastal geo-morphological change

TITLE	Coastal and estuarine morphological processes and modelling
WHY	<p>Existing knowledge gaps in morphological modelling, of importance to coastal management, need to be bridged.</p> <p>Climate changes will affect the sensitive balances of coasts, estuaries and tidal inlets. The underlying knowledge and tools to quantify the morphological response to changed forcing conditions are not at a level where effects can be accurately quantified.</p>
WHAT	<p>Examples of processes: hydrodynamics in the surf zone, cross-shore and longshore sediment transport, breaching and collapse of dunes and sandy barriers, interaction between sand and mud.</p>
HOW	<p>Detailed process modelling supported by field observations.</p> <p>The selection of topics to be studied will be defined after analysis of management needs, such as barrier breaching, coastal erosion.</p>

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TITLE	Determining the range of predictability of coastal and estuarine morphological evolution
WHY	<p>A variety of techniques are used to predict future coastal evolution.</p> <p>We need to establish the prediction horizons to improve forecasts for coastal and maritime users.</p>
WHAT	<p>Identification of intrinsic dynamical behaviour and limits on forecast period.</p> <p>Model developments to make predictions over different planning horizons.</p>
HOW	<p>Theoretical and numerical analysis, combined with comparisons to field observations at a range of space and time scales.</p>