

## **Sand supply to beaches**

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In most cases, beaches and dunes are built by sand that has been transported onshore from the shoreface. While this has been known for a long time, we are still not able to quantitatively predict onshore sediment transport and sand supply to beaches. Sediment transport processes operating during brief, high-energy stormy conditions - when beaches erode and sand moves offshore - are fairly well known and they can be modelled with a reasonable degree of confidence. However, the slower onshore sand transport leading to beach recovery under low-to-moderate energy conditions – and the reason why beaches and dunes exist in the first place – is not yet well understood. This severely limits our capability to understand and predict coastal behaviour on long time scales, for example in response to changing sea level or wave conditions.

This paper will discuss issues and recent developments in sediment transport measurement and prediction on the lower and upper shoreface and into the swash zone. The focus will be on the integration and upscaling of small-scale deterministic process measurements into parametric models that may increase modelling capabilities of coastal behaviour on larger temporal and spatial scales.