



# UK Coastal Research Conference

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### **DEFINING BEACH RECOVERY: A CASE STUDY COMPARISON OF EROSION AND FLOOD RISK REPORTING METRICS**

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Understanding beach recovery following storm events is essential for effective coastal management, yet there is little consensus on the most appropriate metrics to define recovery. This study evaluates different beach metrics to determine their relative usefulness in assessing beach recovery across multiple sites.

The research collates existing literature on beach recovery definitions, with reference to regionally coherent beach behaviour and clustering approaches. A case study comparison is conducted using high-resolution topographic and LiDAR data from selected sites in the south west of England, including Par, Crantock, and Exmouth.

A range of morphometric indicators are analysed, including beach width derived from contour positions (Mean High Water, Mean High Water Springs, Mean Sea Level, and dune toe), beach profile volumes, and beach slope variations in the mobile and stable beach zones. Additionally, 3D volumetric analyses are employed to assess Mobile Zone Volume (MHWS +1 m to stable dune) and Beach Zone Volume (MLWS to MHWS). These metrics are evaluated for their effectiveness in representing post-storm beach recovery and their relevance to erosion and flood risk assessment.

Findings will contribute to a standardised approach for defining beach recovery, with implications for coastal resilience planning. This research aims to refine coastal monitoring strategies by identifying the most robust and practical indicators for beach response assessment.