

Chalk coast erosion and its contribution to the shingle budget in East Sussex

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Summary

Detailed measurements of cliff retreat and shore platform downwearing made from surveyed map data are combined with digital elevation models to calculate the losses of chalk cliff over the past 124 years. Combined with detailed measurements of the flint content of each bed of chalk outcropping in the cliffs, these data are used to calculate the contribution of the erosion of the chalk coast to the shingle beaches of Sussex. On average 7700 m³ of bulk volume flint shingle are added to the beaches each year, less than 10% coming from the shore platform. Supply of shingle at this rate for the larger part of the Holocene would be insufficient, by an order of magnitude, to produce the volumes of shingle found along the coast today indicating that the shingle beaches must be a largely fossil resource.