

Quantifying coastal heritage change: an Isle of Wight case study

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Abstract

The archaeology of the coast is rich but is vulnerable to a variety of natural and anthropogenic threats which are likely to be exacerbated by the predicted effects of climate change. It is only relatively recently that the value of the coastal heritage resource has been recognised and consequently there have been few attempts to produce a quantitative assessment of this resource and to evaluate the threats with which it is faced. This thesis examines the background to coastal management and the development of coastal archaeological research in the United Kingdom. It assesses the range of perceived threats to the coastal heritage and the means of ranking or prioritising sites in terms of their significance and vulnerability.

Six coastal areas of the Isle of Wight are selected as case studies representing geomorphological diversity and rich and varied archaeology. Using data from the county Historic Environment Record together with a range of datasets including historic mapping, aerial photographs and LiDAR surveys within ArcView GIS, the techniques used to calculate past coastal recession and heritage loss are assessed. The results are then used to predict future losses, applying formulae which are regularly used in shoreline management planning and using Defra (2006e) projections of sea-level rise.

The results indicate that it is relatively easy to produce a quantification of past coastal recession and heritage loss, and to use this data to predict future losses, but it is suggested that the results should be used with caution because of the errors inherent to the datasets and the unpredictable nature of coastal erosion. The current means of managing the heritage of the coast are discussed and recommendations are made for future work.

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