

## **Modelling hillslope soil erosion at ANZAC Cove, Turkey**

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**Abstract** The Gallipoli Peninsula Peace Park in Turkey is becoming an increasingly popular tourist destination, particularly around ANZAC day when thousands of Australian and New Zealand visitors attend memorial ceremonies. The Peace Park currently faces the difficult issue of balancing public access to its battlefield sites with the desire to conserve their natural and archaeological value. An important aspect of this management is a perceived need to control soil erosion, which has been identified as a problem within the Park. Although potentially important, very little work has been undertaken to determine the extent to which erosion is occurring or to quantify erosion rates. This study aims to remotely predict erosion susceptibility at ANZAC Cove, a site within the Gallipoli Peninsula Peace Park, using a hillslope soil erosion model: Silsoe. The model was built in an ArcGIS framework using a Digital Elevation Model (DEM) that enabled output in the form of erosion prediction maps. Initial results indicate that slopes around ANZAC Cove are vulnerable to extensive erosion, rates of which are primarily limited by sediment transport capacities. Some of the highest rates of erosion coincide with the occurrence of important historic sites, reflecting the significance of topography in the Gallipoli campaign. The results of this study can be used to provide an initial risk assessment for soil erosion in the Gallipoli Peninsula Peace Park and information for the emplacement of erosion control measures in the Park.

**Key words** Silsoe model; sediment transport; Gallipoli Peninsular Peace Park, Turkey; erosion susceptibility

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