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Mapping invisibility: GIS approaches to the analysis of hiding and seclusion

Mark Gillings

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Author Details:

Mark Gillings
School of Archaeology and Ancient History
University of Leicester
Leicester
LE1 7RH
email: mg41@le.ac.uk
tel: +44 116 252 2723

Abstract

Analyses of visibility have become a commonplace within landscape-based archaeological research, whether through rich description, simple mapping or formal modelling and statistical analysis, the latter increasingly carried out using the viewshed functionality of GIS. The research presented here challenges current obsessions with what is visible to focus instead upon the interpretative benefits of considering the invisible and the complex interplay of visibility and concealment that frequently accompany landscape movement and experience. Having highlighted the difficulties in analysing relational properties such as invisibility and hiding using traditional archaeological techniques, a series of new GIS methodologies are presented and evaluated in the context of an original study of a series of remarkably small, visually non-intrusive prehistoric megalithic monuments. The results serve to challenge dominant interpretations of these enigmatic sites as well as demonstrating the utility, value and potential of the GIS-based approaches developed.

Highlights

- The paper demonstrates that GIS-based viewshed calculations (and their obverse), carried out in sufficient number and within a clear theoretical framework, offer considerable potential for the analysis and exploration of invisibility and hiding.
- It shows that global indices of visual concealment and exposure independent of any single designated location, or group of such, can serve as powerful heuristics capable of opening up new interpretative pathways.
- Once mapped, landscape-wide patterns of hiding and exposure can be subject to further interrogation and analysis through metrics such as texture and rugosity that in turn open new directions for landscape research

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