Applied Geospatial Perspectives on the Rock Art of the Lake of the Woods Region of Ontario, Canada

John W. Norder, Michigan State University, USA
Jon W. Carroll, Michigan State University, USA

ABSTRACT

This study examines the role of rock art in the construction of Woodland Period (300 BC to AD 1700) hunter-gatherer landscapes in the Lake of the Woods region of northwestern Ontario. The authors examine the distribution of documented pictograph sites relative to the locations of rock formations where the geologic conditions would have favored the placement of pictographic rock art but are absent. Point pattern analysis, Monte Carlo simulation, and least cost path analysis were used to analyze the findings. The authors suggest that pictograph sites were placed at points on the landscape along water routes to facilitate information exchange among highly mobile hunter-gatherers.

Keywords: Geographic Information Systems (GIS), Hunter-Gatherer Studies, Indigenous Studies, Information Exchange, Least Cost Path Analysis, Monte Carlo Simulation, Pictographs, Point Pattern Analysis, Symbolic Communication

INTRODUCTION

The study of rock art has been an area of archaeological interest for well over a century. However, it has only been within the past three decades that this heritage resource has gained mainstream disciplinary attention. Researchers have become increasingly aware of the significance of these sites as records of the ideologies, histories, politics, and religions of early societies ranging in complexity from hunter-gatherers of the Upper Paleolithic to the empires of Ancient Egypt and Rome. In addition, rock art has been an area of greater efforts in heritage management plans as increased development, air pollution, and other human-related factors have either destroyed, degraded, or currently threaten these sites. In this context, the study of rock art sites takes on greater urgency, not only for archaeologists but for people with connected histories to these places such as those in this study.

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BC to AD 1700) hunter-gatherer landscapes in the Lake of the Woods region of northwestern Ontario (Figure 1). Across the broader Canadian Shield, in which the study area is located, rock art has long been suggested as a means by which ancestral Algonquian Indian communities communicated information. The majority of research has focused on images at these sites and has been informed by ethnohistoric research and ethnographic fieldwork among Algonquian speaking peoples of the region – the Cree, Ojibwe, and Salteaux First Nations (Dewdney & Kidd, 1972; Conway, 1993; Molyneaux, 1980; Rajnovich, 1989, 1994; Steinbring, 1992; Vastokas & Vastokas, 1973). Interpretations derived from this research have emphasized religious and ritual meanings of these sites in terms of cosmological significance, ritual practice, and as components of the spiritual landscape of historic and ancestral Algonquian Indian communities. Recent and current research has focused more on this latter topic further linking these places to descendant First Nations aboriginal communities as part of their contemporary cultural landscapes (Arsenault, 2004; Norder, 2007, in press-a).

This paper builds on work conducted by one of the authors (Norder, 2003) that examines an additional area of study by focusing on the potential significance of pictographic rock art site placement not just as part of a spiritual landscape, but as part of the broader social landscape of the makers. Fieldwork conducted in 2000 (Norder, 2003) and 2005 strongly suggested that locations of pictographs, or painted rock art sites, were intentionally selected and placed on the landscape to foster forms of secular information exchange related to population mobility and seasonal aggregation. Despite these initial findings, it has remained to be determined more conclusively whether the spatial distribution on the landscape is a result of random behavior or if there is some form of patterning associated with their production. Using point pattern analysis, Monte Carlo simulation, and least cost path analysis, we propose that pictograph sites were placed in strategic locations along specific water routes, which served to foster information exchange and guide travel and other forms of secular human activities and behaviors. Understanding this intentional placement of pictographs speaks to how these pre-Contact aboriginal communities actively used the landscape to facilitate information exchange predictably across space and time.

Figure 1. Location of study area

![Location of study area map](image-url)
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