Geophysical investigations at Phillip's Garden, Newfoundland

Corina Tudor and M.A.P. Renouf
Department of Archaeology, Memorial University, 210 Prince Phillip Drive, St. John's, Newfoundland A1B 3R6, Canada

This paper presents the 2011–2012 geophysical investigations, including ground-penetrating radar and magnetometry, at the prehistoric site of Phillip's Garden, northwestern Newfoundland. The site was occupied from 1990 to 1180 BP (years before present). Phillip's Garden is the largest Dorset Palaeoeskimo settlement in the Canadian North, with the remains of at least 67 identified dwellings spread out over 2 ha; our 2012 research shows that there may be close to 150 dwellings at the site. Most dwellings at Phillip's Garden are large (ranging between 75 m^2 and 100 m^2) and they are associated with many artefacts and animal bones. This makes the excavation of a dwelling time consuming and expensive.

The purpose of this study is to test the efficacy of geophysical methods at Phillip's Garden, which could non-intrusively identify the presence of dwellings at the site as well as their associated architectural features. This research builds on Eastaugh and Taylor's 2001 magnetometry survey of Phillip's Garden, who used the method to identify possible buried dwellings at the site. Based on data collection from two consecutive seasons, we concluded that geophysical methods are useful in identifying the presence of dwellings structures, including interior layout and some interior features.

While geophysical methods have been previously used in North American prehistoric archaeology, these studies have been focused on the establishing the presence/absence of sites using large intervals (1 m) between surveying transects. Our research operates at a much higher resolution with smaller sampling intervals (10 cm and 25 cm) between transects. This is significant for Phillip's Garden as it provides us with a non-invasive and fast way of investigating the dwellings at the site. Additionally, our research shows that geophysical methods can be used on more ephemeral hunter-gatherer sites in Newfoundland and elsewhere.

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