Identifying, Expanding, and Recovering Archaeological Sites: Applications of Remote Sensing in Cultural Resource Management

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There are a variety of applications of Remote Sensing within Archaeology, including, but not limited to:

- Site, opportunity, and perspective appraisal of sites
- Assessment of structural integrity
- Cultural heritage conservation
- Historic human occupancy and change
- Detecting archaeological sites
- Site management and artifact provenance
- Site prospecting and detection
- Identifying destroyed sites

This review focuses on the detection of archaeological sites, mainly, expanding boundaries of known archaeological sites and features, prospecting for those that are unknown and undiscovered, and in some cases, identifying features that have been destroyed.

Site Areas and Detection Data

<table>
<thead>
<tr>
<th>Known Sites/Expansion</th>
<th>Unknown Sites/Prospecting</th>
<th>Identifying Destroyed Sites</th>
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</thead>
<tbody>
<tr>
<td>Known sites may already be documented, but their full extent may be unknown.</td>
<td>Example: Awatixa Hidatsa Village at the Knife River Indian Village National Historic Site in North Dakota</td>
<td>Example: Levelled Archaeological Mounds in Southeastern Turkey</td>
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</tbody>
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Ferrara District, Italy:
Data: Bathymetry and Data Collected in the Field

United Kingdom:
Data: Airborne LiDAR and benchmark data

Methods

- Surface-Based Magnetic Surveys using a dual fluxgate gradiometer, 125 soils sample measurements taken at: 0.125m samples. 20 by 20 m grids, one meter apart.
- Col bank to measure magnetic susceptibility
- A Basic Magnetic Susceptibility Reconnaisance conducted on all soil samples

Results

- Remote Sensing can be an effective tool in archaeology, especially when it comes to the detection of sites or features know, unknown, and those that have been destroyed.

References