

Archaeological Applications of Remote Sensing: Review of Success Criteria and Examples From Diverse Environments

Ronald G. Blom
300-233 Jet Propulsion Laboratory
California Institute of Technology
Pasadena CA 91109
ronald.blom@jpl.nasa.gov

Airborne and spaceborne remote sensing data sets have found increasing use in archaeological investigations in diverse environments, particularly over the last two decades. Successful applications typically have several characteristics in common, often including multidisciplinary partnerships between archaeologists, remote sensing specialists, and those with expertise in GIS (Geographic Information Systems). More recently, many archaeologists have fully embraced the various technologies as their own, resulting in rapid changes and progress. Archaeological applications of remote sensing data can range from indications of areas favorable for archeological prospection, to direct detection and characterization of potential sites. Remote sensing data can thus help guide field investigations and can save valuable field time. Accordingly, remote sensing data can be a powerful tool for increasing efficiency of archaeological investigations when fully and systematically integrated into investigation protocols. In this paper, a historical overview is presented, with characteristics of useful applications of various remote sensing data to archaeological problems in diverse environments reviewed. In particular, early applications of imaging radar, Landsat and SPOT data in the middle east, where the remote sensing data provided important clues to archaeologically favorable locations, helped foster later work using airborne and space borne radar in areas as diverse as Angkor Wat in Cambodia and California's San Clemente Island. It is also important to emphasize that our collective cultural heritage is being lost, stolen, or simply paved over at an alarming rate, the use of remote sensing data to increase the rate of discovery and documentation is vital. The past has much to teach us.