GLOSSARY

TECHNICAL TERMS

Georeferencing
The process of aligning spatial data (e.g., images, point clouds) to a defined coordinate system, ensuring spatial accuracy and interoperability within GIS or CAD environments.

GNSS (Global Navigation Satellite System)
A satellite-based navigation framework providing precise geospatial positioning and time information, critical for accurate georeferencing in archaeological mapping.

IMU (Inertial Measurement Unit)
An onboard sensor package comprising accelerometers and gyroscopes that records an object's acceleration, orientation, and angular velocity, enhancing positional stability and data fidelity in UAV-based acquisitions.

LiDAR (Light Detection and Ranging)
A remote sensing technology utilizing laser pulses to generate high-resolution three-dimensional point clouds, providing detailed topographic and vegetation-penetrating data.

MVS (Multi-View Stereo)
An enhancement to SfM techniques that refines three-dimensional reconstructions by leveraging dense point matching across multiple overlapping images, improving volumetric and textural accuracy.

Orthophoto
A geometrically corrected aerial image where distortions from terrain relief, sensor tilt, and lens aberrations are removed, allowing accurate planimetric measurements.

Photogrammetry
A surveying and mapping technique that extracts metric information from photographic images, facilitating the generation of accurate three-dimensional models of physical objects or landscapes.

Point cloud
A spatial dataset consisting of millions of georeferenced points in three-dimensional space, typically derived from LiDAR or photogrammetry, representing the surveyed surface with high precision.

RTK (Real-Time Kinematic)
A GNSS correction technique that applies real-time differential corrections, achieving centimeter-level positional accuracy, commonly used in topographic surveys and UAV operations.

SfM (Structure from Motion)
A photogrammetric method that reconstructs three-dimensional models by detecting spatial correspondences across multiple two-dimensional images captured from varying perspectives.

Topography
The quantitative study and graphical representation of surface elevation, contour, and landscape morphology, fundamental for archaeological site interpretation and modeling.

UAV (Unmanned Aerial Vehicle)
An unmanned aircraft system employed for remote data acquisition, commonly called a drone, particularly aerial photography and geospatial surveying, enabling non-intrusive site documentation.

ARCHAEOLOGICAL AND CULTURAL TERMS

Archaeological anomaly
A subsurface or surface irregularity detected through remote sensing or geophysical methods, interpreted as a potential anthropogenic feature requiring further archaeological investigation.

Funerary context
An archaeological assemblage or stratigraphic setting explicitly related to mortuary activity, including burials, grave goods, and associated ritual materials.

Megalith
A large, unworked or minimally shaped stone element used in prehistoric monumental architecture, including structures such as dolmens, menhirs, or stone circles, often with ceremonial or funerary purposes.

Microtopographies
Small-scale surface irregularities or variations in terrain, typically ranging from centimeters to meters in scale, which may be of natural or anthropogenic origin. In archaeology, their study helps identify buried structures, remnants of human activity (such as ditches, walls, pits, or floors), or soil disturbances caused by taphonomic processes.

Monumental architecture
Large-scale built structures, often employing megalithic elements, reflecting collective investment and carrying ceremonial, political, or symbolic weight.

Necropolis
A formally organized burial area, often monumentalized, representing a communal or regional locus for funerary practices and mortuary rituals.

Petroglyph
A prehistoric or historic rock carving or engraving, typically inscribed on bedrock or boulders, conveying symbolic, artistic, or ritual significance.

Ritual activity
Culturally codified actions performed within specific spatial and temporal frameworks, often involving symbolic objects or spaces, with religious or sociopolitical significance.

Ritual landscape
A spatially defined area imbued with symbolic and ceremonial significance, integrating natural and anthropogenic features central to ritual practices and social memory.

Rock art
Pictorial or engraved visual expressions created on natural rock surfaces, typically of symbolic, religious, or communicative function within prehistoric societies.

Stratigraphy
The analytical study of stratified archaeological deposits, employing layer sequences to interpret temporal relationships, cultural phases, and site formation processes.

Tumulus
An earthen or stony mound constructed over a burial or funerary chamber, marking a grave or necropolis within prehistoric landscapes.

METHODOLOGICAL AND DISSEMINATION TERMS

3D documentation
The comprehensive capture and digital reconstruction of physical entities (such as artifacts, features, or landscapes) into metrically accurate, high-resolution three-dimensional models.

Heritage dissemination
The process of communicating and making accessible scientific knowledge and cultural heritage to diverse audiences, bridging expert research with public engagement.

Interpolated animation
A visualization technique that dynamically transitions between distinct states (e.g., vegetated vs. bare-earth models), facilitating comparative spatial analysis.

Mesh reduction
A computational process applied to three-dimensional models where the number of polygons (triangles or faces) is selectively decreased to optimize file size and rendering performance, while preserving essential geometric and visual details. In heritage documentation, mesh reduction is crucial for preparing high-resolution 3D models for online dissemination or interactive visualization platforms (e.g., Sketchfab), ensuring compliance with platform-specific data limits without compromising scientific or interpretive value.

Non-invasive recording
Documentation or analytical methodologies that capture information from archaeological materials or contexts without physical disturbance or alteration.

Preventive conservation
A proactive strategy for safeguarding cultural heritage, focusing on the identification and mitigation of risks before material degradation or loss occurs.

Rendering
The computational process of generating two-dimensional images or animations from three-dimensional models, translating geometric data, textures, lighting, and material properties into visual outputs. In archaeological and heritage applications, rendering is employed to produce visualizations for analysis, interpretation, and dissemination, ranging from schematic or stylized outputs to high-fidelity visual representations.

Texturing
The process of applying detailed surface characteristics, such as photographic images, color maps, or synthetic patterns, onto the geometric surface of a three-dimensional model. In cultural heritage, texturing enhances the visual realism of digital reconstructions by accurately representing material properties, wear, and surface nuances, supporting both scientific interpretation and public dissemination.

Three-dimensional model
A digital geometric representation of an object, structure, or landscape, integrating spatial, textural, and material properties for analytical, interpretative, or communicative purposes.

Virtual reconstruction
A scientifically grounded digital recreation of past states of archaeological sites, features, or objects, supporting hypothesis testing, interpretation, and public presentation.