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THE MOZAN/URKESH ARCHAEOLOGICAL PROJECT: AN INTEGRATED APPROACH OF SPATIAL TECHNOLOGIES

Urkesh, today a small village known as Tell Mozan, was a major political and religious center of the Hurrians - an elusive population of the ancient Near East. Archaeological excavations have shown that they had developed a strong urban civilization, at the very dawn of history, some 5000 years ago. A temple dominated the ancient skyline, at the top of a built-up terrace that rivaled the nearby mountains. A large royal palace, currently under excavation, has yielded written evidence that has allowed us to identify the ancient city. The excavation of Urkesh at Tell Mozan started in 1984 and through the year 2002 there have been 15 seasons of excavation. Excavations are carried out under a permit from, and with the collaboration of The Directorate General of Antiquities and Museums, The Ministry of Culture, The Syrian Arab Republic The expedition is under the aegis of IIMAS - The International Institute for Mesopotamian Area Studies.

In this context, in 2003, an international collaboration between IIMAS and CNR-ITABC is started in order to use, during the fieldwork, 2d and 3d integrated technologies of archaeological survey: DGPS with Racal system, PDA, GIS mapping, remote sensing and 3D photomodeling. All these portable technologies address the archaeological excavations and intrasite surveys towards a complete digital mapping, 2d at the beginning of the acquisition and 3D in the final processing. In fact the use of DGPS with the Racal satellite correction allows an accuracy of 25-30 cm in real time (without post processing); in this way it is possible to create a GIS while spatial data are acquired and to plan geo-links with the archaeological layers. In the same time the use of photomodeling techniques has permitted, through calibrated sequences of digital photos, to construct 3d detailed photogrammetric models of the main archaeological structures, in order to geo-link these spatial data with a GIS background (already during the fieldwork).

Therefore, in the next, we could imagine to create a real time spatial information system during the fieldwork, so that it is possible to map digitally all the archaeological contexts (Uss, artifacts, structures, etc.) in geographic coordinates and, finally, to reconstruct a complete archaeological landscape.