Looking for the Gate: Imaging at Bethsaida Israel
A ground penetrating radar perspective

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Abstract

The ancient city of Bethsaida is located in the northern Galilee region of Israel along shores of the Sea of Galilee and is mentioned by Paul the Elder, Josephus as well as several Biblical texts. First excavated in 1987, the site continues to be excavated. During this time, researchers discovered that multiple habitation layers exist, and the site is known as et-Tell. The site has been investigated using multiple geospatial methods including ground penetrating radar (GPR) technology. The GPR methodology sends electromagnetic pulses into the subsurface and records their returns. In collaboration with the archaeologists, a Sensors and Software pulseEKKO 100 GPR system with 100 MHZ antennae was used to collect two grids in search of a possible gate structure below the presented excavations. The data was processed using EKKO_Project with an inclined reflection noted in the 2D imagery. This continuous reflection pattern was interpreted as subsurface target horizons for on-site archaeologists. A test probe confirmed the GPR results, located another habitation layer, and has led to extensive excavations at et-Tell.

Introduction

Bethsaida is an ancient city in the Galilee region of Israel. Just two kilometers off the Sea of Galilee shoreline, the 21-acre mound has become a place of interest for a consortium of researchers worldwide (Savage, 2011). The reason for the shared excitement is that the mound et-Tell is believed to be Bethsaida, the biblical city mentioned in the Old and New Testament as the place where Jesus healed the blind man and where the three Apostles grew up. It is also hypothesized to be the ancient Greek city Julianus after Jewish historian Josephus Flavius claimed that Philip, the son of Herod the Great, proclaimed Bethsaida be renamed Julius in 30 C.E. (Savage, 2011).

Methodology

A probe was set out to look for another segment of the paved road buried in front of Bethsaida’s gateway. Doing so provided GPR imagery detailing the location of the road so that archeologists were able to locate the road accurately. By using the excavated outer city wall and gateway as a guide, the team laid out an upper and lower grid. The hypothesized road is on a downward slope, hence the need for an upper and separate lower grid.

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Results

The application of GPR onsite and excavation thereafter proved successful based on the collection of archaeological findings. After analyzing and interpreting the upper and lower grid, the location of the buried road was determined using EKKO_Project 5 software visuals. The team worked within the upper and lower grids and interpreted before and excavated into that area.

References