



Fig. 15. Re-sampling selected fields near Abila

One much debated, but still open question is whether and how ancient field systems and agricultural practices can be reconstructed in the landscape. Soils and sediments can geochemically store information about past human activities, while strongly varying amounts of material culture (mainly pottery) on current fields in Jordan very likely testify to certain human activities of the past (e.g. manuring).

A proposal funded by the German Research Foundation (DFG) and Fund for Scientific Research (FWF) conducted intensive, systematic archaeological surveys in the hinterlands of Gadara/Umm Qeis, Abila of the Decapolis, and Umm el-Jimal. These were accompanied by systematic collections of soil samples, both from the surface of the surveyed agricultural fields and olive groves, and from soil and sediment profiles associated with the surveyed areas. Results confirmed the premise that fields around these three sites resemble largely stable land surfaces, although some short but intense periods of sedimentation occurred in the 6th century A.D. and during the Little Ice Age, between the 16th and 19th centuries A.D., which were probably caused by heavy rains and earthquakes.

Preliminary results of the 2014 survey around Abila suggest that a rather complex pattern of material culture is present on the fields, but certain patterns are clearly discernible. For example, biomarkers of pig excrements show a very strong correlation with pottery distribution on the fields, indicating that the (mainly classical, i.e. Late Roman and Byzantine) pottery is connected with specific manuring related to pigs, and/or with pig herding. In order to better understand this complexity, the spatial resolution of soil sampling on selected fields was improved during a short field season in 2017. While the collected pottery had been recorded at a resolution of 50 m, such a level of detail was not yet available for soil samples due to limits of lab analysis capacities. During the re-sampling, soil samples were taken at a resolution of 100 m for certain parts of the transects that had been surveyed earlier.

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