

# Reusing legacy field survey data for new questions: a case study from the *Sibaritide* region (Calabria, Italy)

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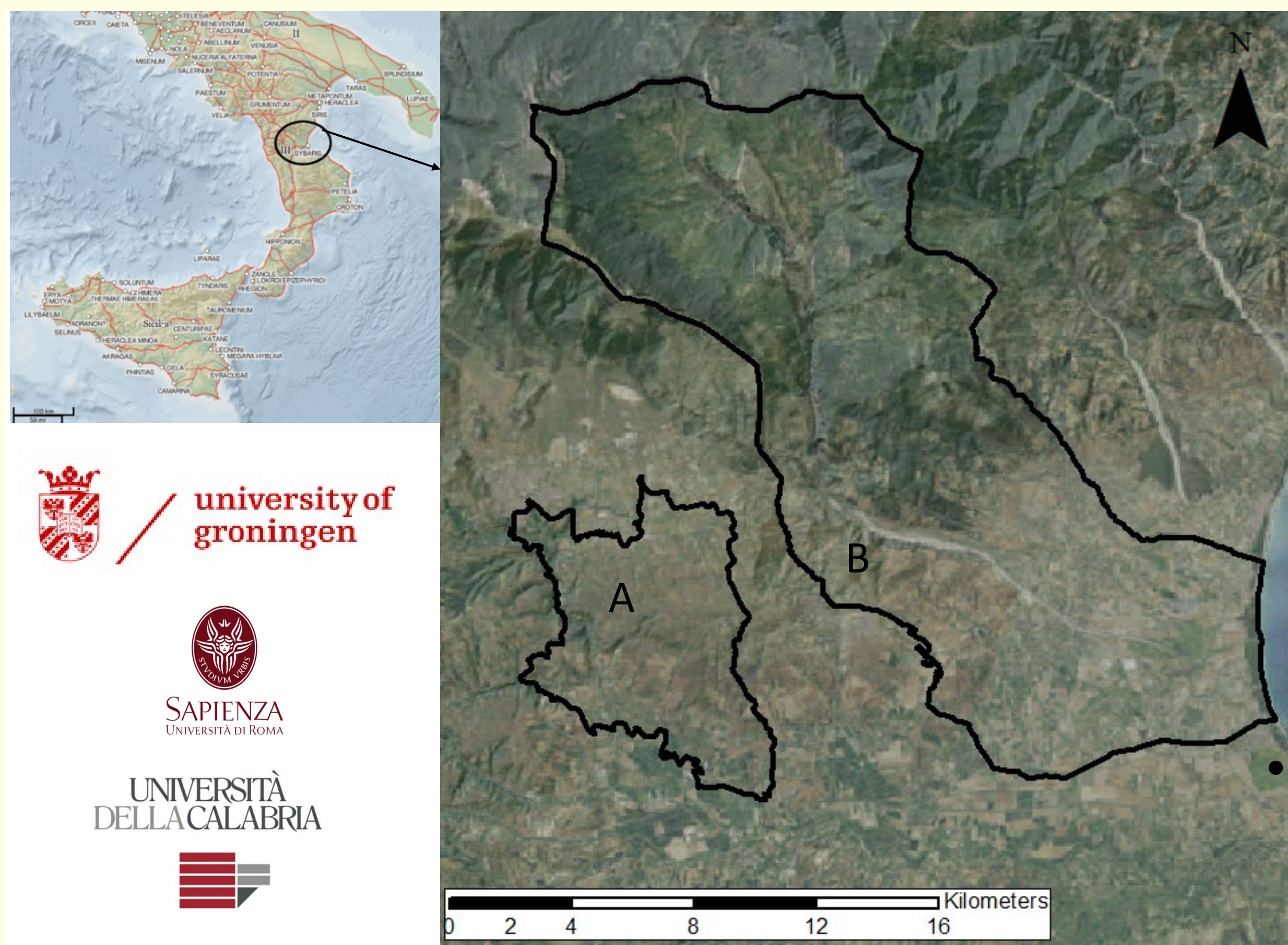


Figure 1: Raganello Archaeological Project research area (B), Castrovillari municipality surveyed area (A)

## Introduction

This PhD project focuses on the analysis of Southern Italy's **rural landscapes** during the **Hellenistic and Roman periods** (4<sup>th</sup> century BC – 4<sup>th</sup> century AD). The primary goal is to identify and explain large-scale diachronic patterns in the countryside organisation by comparing regional variations and similarities, based on pedestrian survey data. The core research area is the **Sibaritide region**, where extensive datasets are provided by the survey projects carried out since 2000 in the **Raganello basin** (2000-2014, University of Groningen, Raganello Archaeological Project, Van Leusen – Attema 2002) and the **Castrovillari municipality** (2000-2005, University of Calabria and University of Roma La Sapienza, Capanna – Carafa 2021). This area corresponds to the edges of the Sibari plain and the lower part of the Pollino mountains: it was part of the internal countryside of the Greek and Roman colonies founded by the coast (**Sybaris, Thurii and Copia**). The two surveyed areas, almost contiguous and with a coverage of more than 450 Ha, allow for a large-scale analysis of the rural settlements and land-use patterns (figure 1).



## The datasets

The two survey projects documented a long settlement and land use history. In the Raganello basin, more than 250 sites were identified, the majority of them dating to the **Protohistoric** period (Bronze Age – early Iron Age). Approximately 50 sites have been interpreted as **Hellenistic farms** (mid-4<sup>th</sup> century BC - 2<sup>nd</sup> century BC), while only a few sites have an Imperial Roman phase. In the Castrovillari area, a variety of sites (farms, villages, villae, graves, cult places...) from the Protohistory to the Middle Ages were recorded, with a peak during the 4<sup>th</sup> - 3<sup>rd</sup> centuries BC and a scattered presence of **Roman villae**. The rural infill during the Hellenistic period demonstrates a well-developed agrarian economy related to the development of Thurii, while the Roman sites are mainly placed along roads and transhumance routes.

## Re-using survey data: the importance of metadata

The two projects followed **different procedures** regarding the survey strategy, the type of documentation, the criteria for finds collections, site definition, pottery classification... However, they shared **similar theoretical approaches**, so they have a good level of **comparability**. The geo-datasets of each project consist of **spatial data** (shapefiles) and a **database** (MS Access). If we want to re-use these data to answer the research questions (among others, are the finds density maps biased by visibility factors? How are low-density areas spatially distributed? Is the assemblage composition different between high- and low-densities areas?) we need **detailed metadata**: for example, the distance between surveyors, how fields visibility was assessed, or how sites were defined and measured. Based on the metadata, we can **select** which parts of the datasets can be re-used and compared (figure 2).

	Raganello Archaeological Project	Castrovillari field survey
<b>Documentation units</b>	Survey grids 50x50 m	Topographic Units, with variable size
<b>Site definition</b>	Concentration of sherds (without pre-defined threshold)	Aggregation of topographic units
<b>Collection strategy</b>	Standard and Total sample, Diagnostic sample, Grab sample	Total collection of pottery and counting of tiles, collection grids
<b>Sherds properties</b>	Number and weight	Number
<b>Finds classification</b>	20 classes	> 70 classes

Data need to be carefully assessed and selected

Are they re-usable and comparable? **METADATA!**

Figure 2: Main methodological differences between the survey projects

## Re-using geomorphological data: Landscape Classification approach

To assess if finds densities are biased by geomorphological process, survey data have been compared with landscape classes. The landscape classification created for the Raganello basin by Feiken 2014, which divides the territory into units with homogeneous processes of erosion and sedimentation, was extended to the Castrovillari area following the same criteria.

**Land stability** seems indeed to affect the **densities variability**, since in both datasets higher densities correspond to the most stable land units (figure 3).

Name	Code
R: Landscape dominated by steep slopes, mainly in hard rock	R
W: Landscape dominated by concave and irregular slopes, in general not very steep; mainly in soft rock or bedded rock with soft beds	
— in sedimentary, non-volcanic rock	W1
T: Landscape dominated by marine or fluvial terraces	
— flat, gently sloping terrace surface, predominantly in sediments	T1
— slopes between stepped terraces; former sea cliffs	T2
F: Landscape dominated by fluvial landforms	
— steep valley sides associated with river incision	F1
— valley floor with (active) braided river channels	F2
— alluvial fan, non aggrading	F3
— valley floor with (active) meandering river channels	F5
C: Landscape dominated by coastal landforms	
— rather flat, horizontal surfaces in recent sediments, filled up lagoons	C1
— recent active dunes, beach ridges and flats	C2

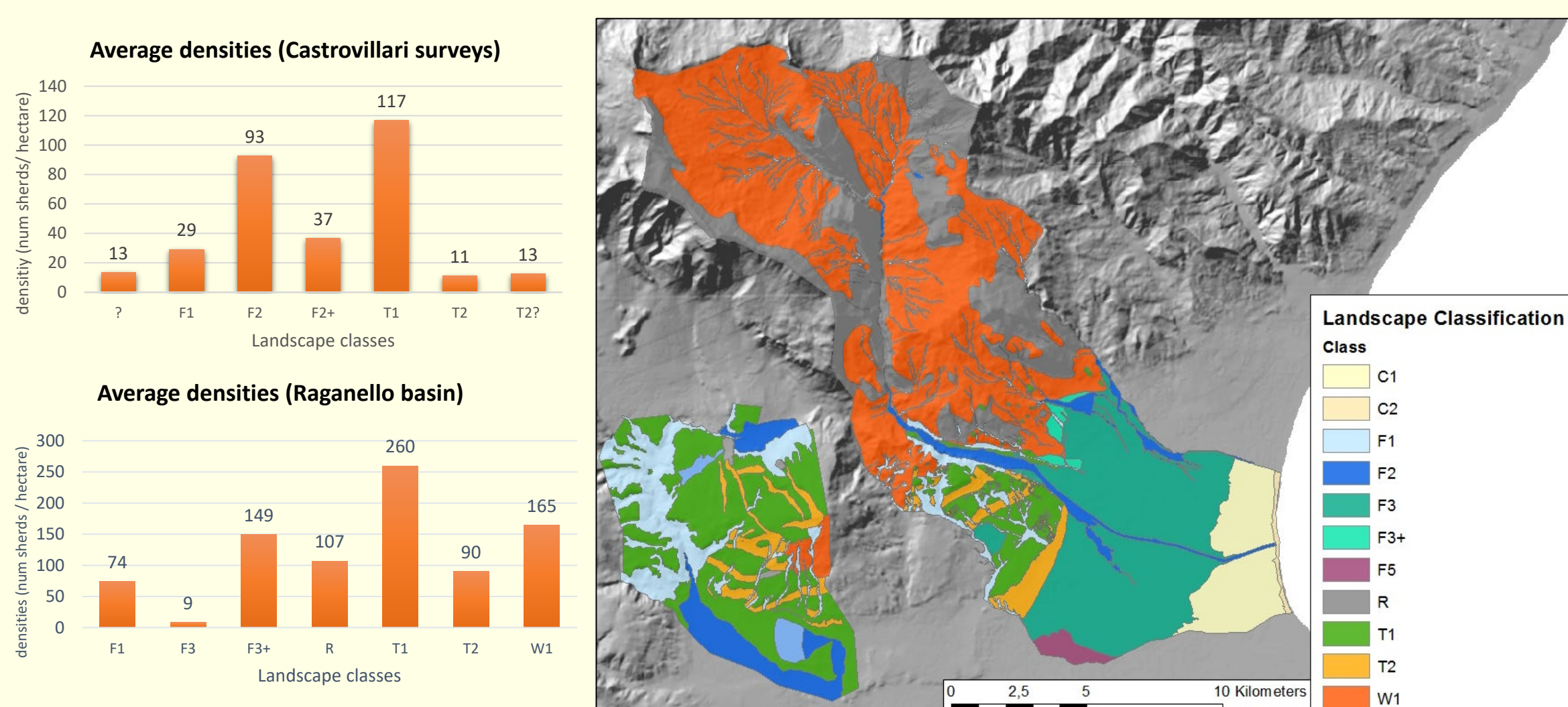


Figure 3: Sibaritide Landscape Classification (after Feiken 2014) and average sherds densities per landscape class

## Analysing off-site data: land-use patterns

**Low-density pottery distributions** are generally interpreted as traces of temporal activities, long-term agricultural practices or post-depositional actions; they can indicate ancient **manuring** activities over agricultural fields (Forbes 2013). Theoretically, we should see a difference in the composition of the assemblage (eg. more tiles in site areas) and the sherds fragmentation (smaller sherds in off-site areas), but these hypotheses are not always confirmed by the case-study datasets. In any case, the diffuse presence of off-sites dating to the Hellenistic period indicates an **intense land-use**, which decreases during the following Roman era (figure 4).

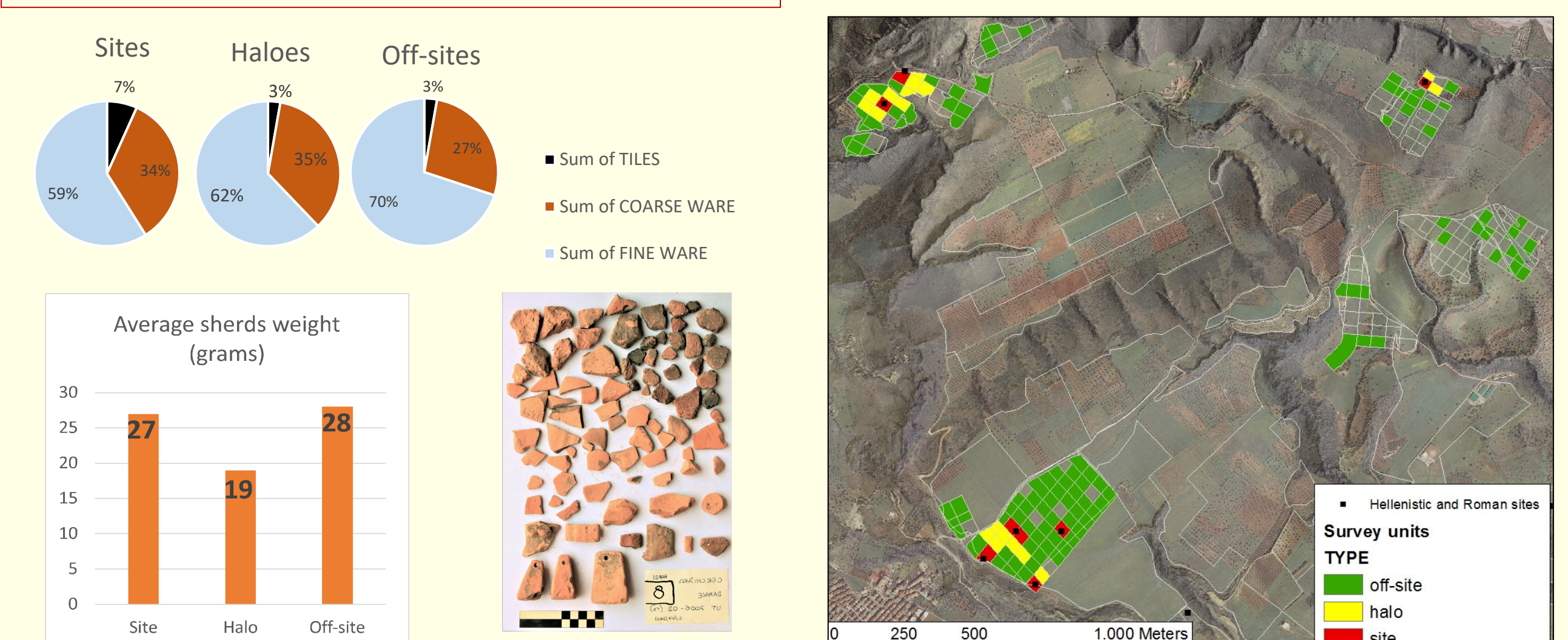


Figure 4: Properties of site, haloes, and off-sites in the Raganello basin; the maps show a selection of the surveyed area

## Conclusions

Detailed metadata are fundamental when re-using legacy data from field survey projects, especially when comparing data from projects which applied different methodologies and documentation procedures. Taking into account the geomorphological biases, the Sibaritide area shows a diffuse presence of low-density scatters, more numerous in the Hellenistic period than in the Roman period, which are related to intense land-use practices.

## Further work

The geo-datasets will be integrated into an overarching database, applying a *mapping* procedure to merge the data and allow aggregate queries. This follows the protocol developed by the **Roman Hinterland Database Project**, which created a database for the field survey projects in the *suburbium* of Rome and addressed multiple issues about survey comparability (Attema et al. 2021, <http://comparativesurveyarchaeology.org/>)

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