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Settlement Patterns in the Wider Ierapetra Isthmus: Continuity and Ruptures from the Archaic to the Venetian Period

ABSTRACT

Through the example of the wider Isthmus of Ierapetra region (including the mountains situated to the west of it), this paper intends to present the methodology and results of “Spatial Dynamics and Settlement Patterns in Eastern Crete from the Classical to the Venetian Period”, a research project conducted by the Laboratory of Geophysical - Satellite Remote Sensing & Archaeoenvironment at the Institute for Mediterranean Studies-FORTH.

The history of settlement patterns in the Isthmus of Ierapetra region clearly shows a series of major changes in occupation from the Archaic to the Venetian period. First, in the Hellenistic period the city of Hierapytna emerged as a new, densely populated urban centre, which developed particularly in the Roman period. From that point on, and particularly in the Late Roman period, the territory was increasingly occupied by multiple farmsteads and villages. The evidence for settlements is far less abundant in the Second Byzantine period, when it seems that Episkopi, situated inland, was the major settlement. In Venetian times the town of Ierapetra regained some importance, being protected by a small castle. The surrounding province was divided into numerous feuds, and significant monasteries flourished, mostly in the mountains.

The originality of the SettleInEastCrete project lies in its consideration of geographical parameters on the same level as historical and archaeological ones. The micro-geography of territory controlled by settlements and their production region emerges as a major parameter, especially in times of political, social and economic changes. This diachronic approach to the history of settlements reveals how they evolved, in a way that would not otherwise have become apparent.

The SettleInEastCrete Project has received funding from the Hellenic Foundation for Research and Innovation (HFRI) and the General Secretariat for Research and Technology (GSRT), under grant agreement N°2388.

KEYWORDS: Crete; Ierapetra Isthmus; Settlement patterns; Landscape archaeology; Diachronic study; Archaic period; Classical period; Hellenistic period; Roman period; Byzantine period; Emirate of Crete; Venetian period

The text presented here is a summarized version of the lengthy article that was published shortly after the 13th ICCS Conference: Coutsinas et al. 2022.

INTRODUCTION

If Eastern Crete is indisputably a world apart on the island, the Isthmus of Ierapetra (Figure 1) represents a mysterious zone, both a regional border – cutting far eastern Crete off from the rest of the island – and a busy passageway linking the north to the south coast. Situated south of Mirabello Bay, it is the narrowest point on the island, at a width of only 14 km, compared to 60 km in the central part of Crete.

The diachronic approach adopted here allows a study of settlements through the series of very different administrative systems implemented on Crete for over a millennium, from the 7th century BC to the 17th century AD.

Titled *SettleInEastCrete. Spatial Dynamics and Settlement Patterns in Eastern Crete from the Classical to the Venetian Period*, our project sets out to determine the development pattern of settlements in Eastern Crete from the Classical to the Venetian period. The goal is to shed light on the transition from ancient autonomous city-states to medieval cities and villages, and trace how the population responded, moving between centralized and dispersed modes of settlement.

1. PRESENTATION

1.1 STUDY AREA

The study zone extends from the southern part of Mirabello Bay in the north to the bays at Ierapetra and Gra Lygia in the south (Figure 1). The eastern limit is formed by the Thrypti Mountains immediately east of the isthmus, though this barrier has its southern limits at Vainia. The southernmost part of the isthmus region, the Plain of Ierapetra, does not have well defined boundaries. To the east, we decided to draw an artificial line from Vainia to the cape just south of it on the coast. To the west, the border of the study zone is at the very end of Gra Lygia Bay, and perhaps even further along at Ammoudares, just south of Anatoli.

The Plain of Ierapetra is the largest plain in that part of the island, and one of the largest along the entire southern coast of Crete. From the town of Ierapetra, the coastal plain expands northwards into a larger inland area. The northern section of the Ierapetra Isthmus begins after Episkopi, where the plain is much narrower and elongated, restricted to the west by a mountain range. Its first outlet is at Pacheia Ammos, the easternmost harbour in the southern part of Mirabello Bay, though it extends further to the north-east, ending at Tholos Bay.

1.2 PROJECT METHODOLOGY

The project methodology combines historical, archaeological and geographical data, all registered in a purpose-built polyparametric database.

The first step in the research was to retrieve and record all historical and archaeological data from published, written and archaeological sources. This was achieved by reading the *Archaialogikon Deltion*, the *Prakitka (Proceedings)* of the Archaeological Society at Athens, the *Proceedings of the International Congress of Cretan Studies* (held every five years) and the *Meeting for the Archaeological Work in Crete* (held every three years and dedicated to the most recent archaeological finds), the various published surveys from the area, as well as all relevant

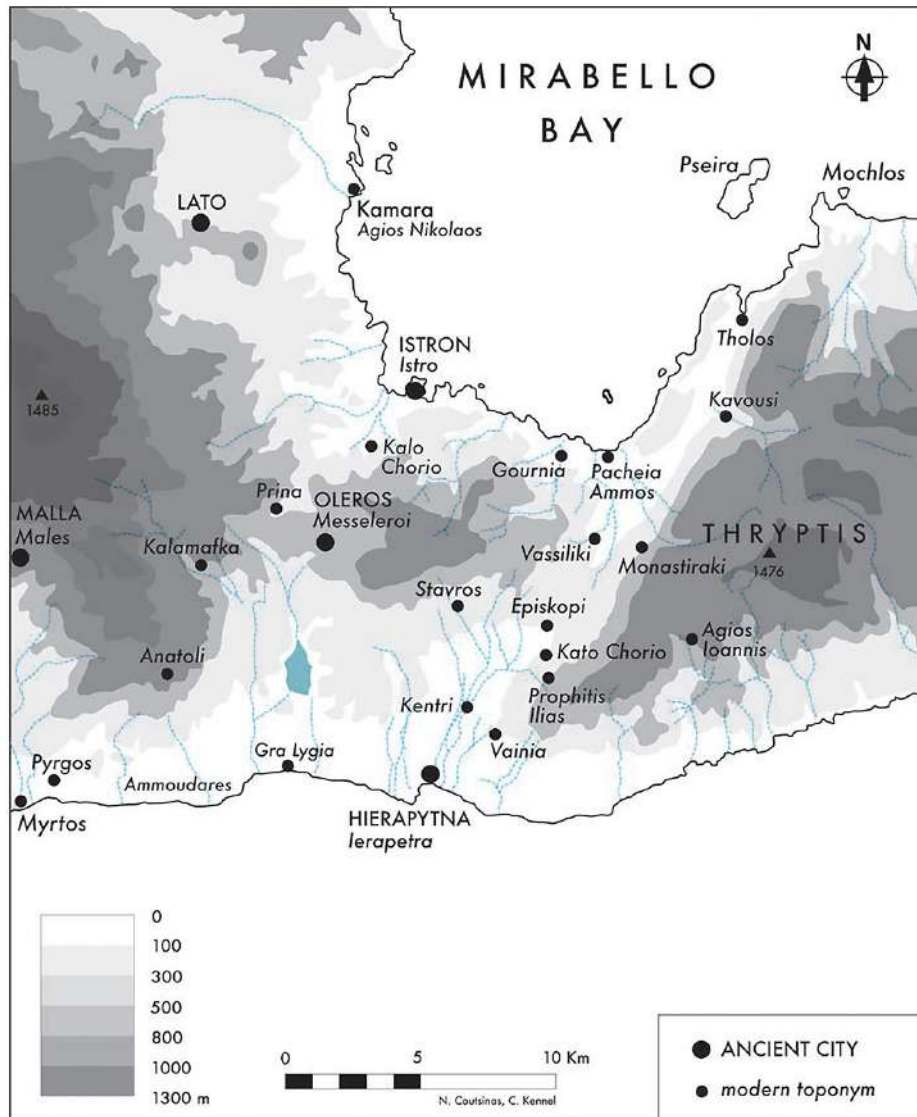


Fig. 1. Map of the Ierapetra Isthmus, indicating Classical cities and modern villages (N. Coutsinas).

publications in any archaeological journal. In fact, most of the archaeological data on the region comes from three major surveys. Two focused on the isthmus plain: the Kavousi Survey, which covers the zone from Tholos to some point south of Kavousi (c.54 km²), including Azoria and the valley extending east (Haggis 2005); and the Gournia Survey (24 km²), which extends south roughly up to Kato Chorio, but also includes the outlet of the plain in Pacheia Ammos Bay to the west and the Minoan town of Gournia (Watrous *et al.* 2012). A third highly interesting survey, the Vrokastro Survey (50 km²), focused on the northern hilly zone of the isthmus, from the coastal plain of Istro to the inland plain of Messeleroi, including the mountain range north of it (Hayden 2004). The conclusions that we draw here necessarily rely on all these earlier publications, and depend on the attention that has been paid to a specific area or chronological period. Given that most of the surveys do not include the Byzantine era in their chronological framework, this is amongst the least well-known periods in our long timespan.

The second step was fieldwork, which aimed at acquiring information on the environmental landscape and different geographical features of each site. We decided to visit what appeared, after our historical and archaeological recording, to be the key sites in Lassithi across the different periods, some already well-known (Tholos, Pacheia Ammos...) and others less so (Mesokastella, Vainia...). Given the disparity of archaeological data sources for the region studied here, we do of course have much more information on the zones covered by the Kavousi, Gournia and Vrokastro surveys than on the rest. Nevertheless, in the restricted zones of the said surveys it is still possible to observe general trends in settlement patterns that can be extrapolated to the rest of the region.

The third and last step was spatial analysis obtained from Geographic Information Systems (G.I.S.), which used field survey data, remote sensing (satellite images and aerial photographs), and Digital Elevation Models (D.E.M). The project places special emphasis on geographical parameters, collecting and analysing information about the geographical and environmental background of the settlements.

2. ANALYSIS BY PERIODS

2.1. THE ARCHAIC PERIOD (ca 800-480 BC) (Figure 2)¹

The only coastal settlement is on the promontory of Nisi Pandeileimon (NP1), where the Classical city of Istron was subsequently to develop (Hayden 2005, *Site Catalogue*, 91-96). If there are a few settlements to the east and west, all remaining occupation is situated inland, at quite a distance from the sea, on naturally defensible sites. The zone of the Kolymvous Mountain Range and Mount Schinavria, separating the Messeleroi Basin from the northern coast, seems to have been particularly favoured in the Archaic period. A few sites have been identified there, at an elevation of between 500 and 660 m, mostly overlooking the Messeleroi Basin to the south. One of them, SK11 (597-618 m), is a fortified settlement mainly occupied in the Archaic period. It has been identified as the early site of the city of Oleros, which developed later in the basin below (Hayden 2005, *Site Catalogue*, 163-164; Coutsinas 2013, 204-205).

At the eastern and western edges of our study zone, five sites hold important settlements in the Archaic period. Above the modern village of Kavousi is the Early Iron Age and Archaic site of Azoria (<https://azoria.unc.edu/overview/bibliography/project-bibliography/>). Situated on a small hill (365 m), the settlement controls the the Kavousi River pass, from the heart of the Thrypti Mountains to the northern isthmus plain. The main phase of occupation at the site is from the late 8th to the first quarter of the 5th century BC, when it was completely abandoned.

Another settlement is located on one of the south-western hills of the Katalimata Range. Prophitis Ilias (320 m), south-east of the village of Kato Chorio (Watrous *et al.* 2012, 132-133), overlooking the southern isthmus plain and part of the coastal Ierapetra plain. Occupation started at the end of the Bronze Age, but the settlement reached its largest extent in the Classical period. This impressive hill, visible from far off, represents a landmark in the isthmus plain.

¹ For detailed maps, see Hayden 2004, fig. 22; Haggis 2005, fig. 15.

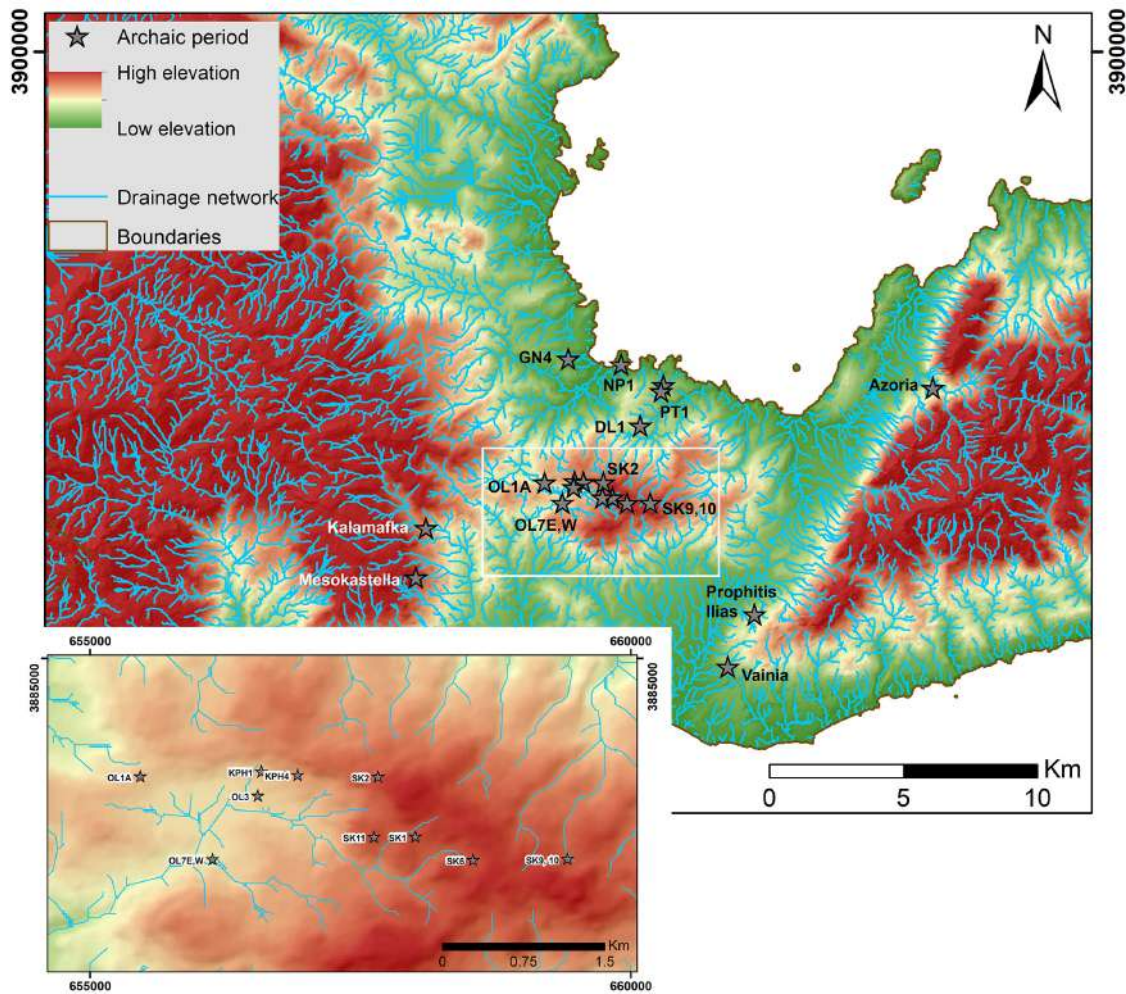


Fig. 2. Archaic period sites on the Ierapetra Isthmus. Inset with the central part of the region (N. Argyriou).

South of Prophitis Ilias, on the southernmost edge of the Thrypti Range, is a site better known for its picturesque Venetian phase. It is Stavromenos, less than a kilometre north-east of the modern village of Vainia (formerly Giannitsi). It is characterized by a small plain situated at a height of 150 m. The site was already occupied in the Bronze Age (Nowicki 2000, 86-89). A few hundred metres to the north there is another hill, on the summit of which Archaic and Classical remains have been found (Nowicki 2000, 8 and fig. 37.3, 87). This strategically located site controls both part of the lower plain and the route leading from Prophitis Ilias to the sea.

At the other edge of the study zone, two sites are situated on the south-eastern extension of the Lassithi Mountains. The modern village of Kalamafka occupies a small basin in the middle of the mountains, with only a restricted view to the coastal plain. The hill of Kastellos (375 m), south of the village, was occupied from the late Bronze Age to the Archaic and, mostly, Classical periods (Nowicki 2000, 127-128).

Less than 2 km south of Kalamafka lies the site of Mesokastella, north of the village of Anatoli. It is composed of a plateau at a low altitude (600m height) surrounded by four rocky spurs (Nowicki 2000, 128-129). Mesokastella has traces of occupation from the Late Bronze Age to the Geometric period. The south-eastern hillock was also reoccupied from the Late Roman to the

Byzantine period, when a fort was even built upon it (Gigourtakis 2004, 41-45, 168-172). The site is naturally defensible and strategically located, as it overlooks the Plain of Ierapetra from the west.

2.2 THE CLASSICAL PERIOD (480-323 BC) (Figure 3)²

The site of Azoria is abandoned at the beginning of the 5th century, and no other site in the northern isthmus plain takes over. The zone is empty. At Pacheia Ammos, a small settlement is established at Halepa (23), the first harbour in the region. The biggest Classical settlement is Prophitis Ilias (150), but a hamlet is established near Monastiraki (77) on the east side of the isthmus plain, nearly halfway to the north coast. The settlement at Vainia continues. On the north coast, a farm (5) is established west of Gournia, on a coastal hill. West of the city of Istron, a small settlement (GN2A1) develops on a small hill overlooking the bay to the west. Following the valley of Kalos Potamos and then continuing inland, another settlement is established on the hill of Prina (PN1), controlling the route south to Kalamafka and a small basin of arable land. All the Archaic sites on the higher slopes of the Kolymvous Mountain Range are abandoned. Settlement is now situated slightly lower down on the slope. The main town is the city of Oleros (OL1B).

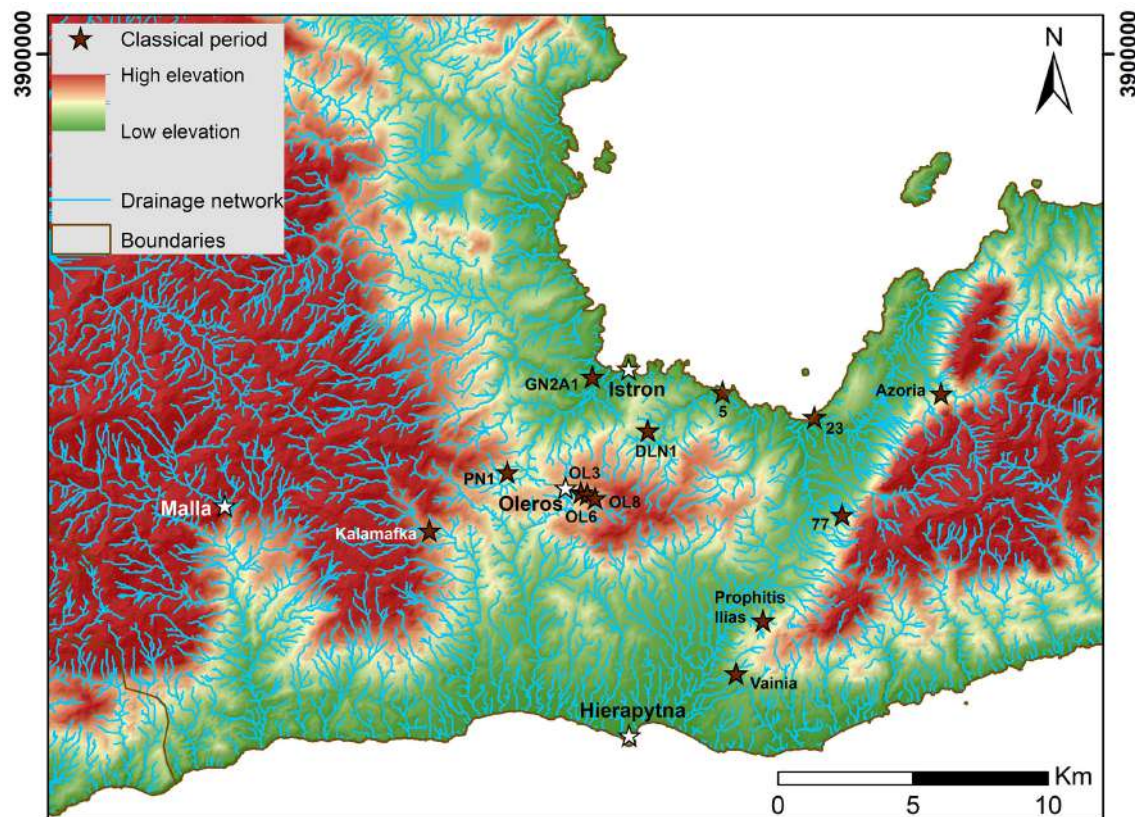


Fig. 3. Classical period sites in the Ierapetra Isthmus (N. Argyriou).

² For detailed maps, see Hayden 2004, fig. 23; Watrous *et al.* 2012, map 39.

At the beginning of the Classical period there are only two city-states in the isthmus region: Istron on the northern coast, and Oleros inland. The closest neighbouring cities are Lato, north-west, overlooking the coastal plain of Agios Nikolaos, and Malla, to the west, enclosed in the south-eastern Lassithi Mountains.

In the 4th century, however, Hierapytna appears as a third city, situated on the south coast. In the history of the Ierapetra Isthmus region, the south coast appeared totally neglected up until that point. But this picture could partly be due to the fragmentary archaeological data in our possession, essentially because of the dense modern urbanisation of the town and intensive agricultural exploitation of the coastal plain. The establishment of this new town shows a new need for the population to have direct access both to the sea and to agricultural lands, as well as the rise of a new political order that renders settlement on defensible sites no longer necessary.

The sudden emergence of Hierapytna is explained by Strabo, when listing the different places called Larisa, 'and in Crete is a city Larisa, now joined to Hierapytna, whence the plain that lies below is now called Larisian Plain' (Strab. 9.5.19)³. Identifying the Larisa mentioned by Strabo is one of the enigmas of the region's settlement history; several sites have been suggested (Guizzi, Stefanaki 2011; Stefanaki 2021, 47-51). It seems that the text refers to an annexation more than a synoecism. And Larisa must have been near to Hierapytna for it to have been incorporated into its territory and thus disappear as a community.

We have very little information on the beginnings of the city of Hierapytna.

Its existence is attested by the first coin series, dating from the second half of the 4th century (Stefanaki 2021), and mention of the city in inscriptions in the 3rd century (IC III, 24-42). But the town was probably already established by the sea in the 5th century, as some occasional pottery found at Ierapetra seems to indicate (Erickson 2010, 189-190). Thereafter we have plentiful evidence for the progressive expansion of Hierapytna along the isthmus towards Mirabello Bay in the 2nd century BC (Vogeikoff-Brogan 2012, 81-83).

The annexation of Larisa cannot have taken place before the 5th century, as Hierapytna was probably not yet well-enough established on the coast. At the time of the city's expansion towards the north, Azoria had already been abandoned (since the first quarter of the 5th century). Even in the case of an earlier annexation, Azoria seems to be situated too far to the north to be a candidate. In the Classical period, the territory of Hierapytna was certainly quite limited along the southern coast. Chronologically, the sites of Kastellos Kalamafka (occupied until the Classical period) or Mesokastella (occupied until the Geometric period) would fit as candidates, but geographically speaking they seem too isolated. Two sites are the best candidates for Larisa: Vainia and Prophitis Ilias. They both dominate the plain lying below and were occupied until the Classical period.⁴ Their abandonment could correspond to the expansion of Hierapytna at that time. Prophitis Ilias, especially, was quite a nodal point, with imports from Attica, Knossos,

³ καὶ ἐν τῇ Κρήτῃ πόλις ἡ νῦν εἰς Ἱεράπυτναν συνοικισθεῖσα, ἀφ' ἧς καὶ τὸ ὑποκείμενον πεδῖον νῦν Λαρίσιον καλεῖται (Strabo. ed. Meineke 1877).

⁴ The only secure dating is for the settlement at Prophitis Ilias, occupied until the third-quarter of the 4th century (Erickson 2010, 192).

Aphrati and Lyktos (Erickson 2010, 196-198, fig. 7.4). Only excavation and extensive study of both sites could bring to light more accurate information on their occupation and importance.

2.3 THE HELLENISTIC PERIOD (323-67 BC) (Figure 4)⁵

In the Hellenistic period, population is mostly concentrated in the urban centres of the city-states: Istron, Oleros, Hierapytna – at least until the 2nd century and Hierapytna's expansion towards the north (Coutsinas *et al.* 2022, 383).

In the hilly zone of the Vrokastro Survey, a few settlements have been identified along the Istro River, notably at Kalo Chorio (KK1) and Prina (PN1). Small settlements are also disseminated in the mountains, at some distance from the main towns.

In the northern Ierapetra Isthmus, the Kavousi region is completely abandoned from the middle of the 5th century BC until some point in the 3rd century BC, and there is no major activity until the beginning of the 1st century BC. The extreme nucleation of settlement in the northern isthmus in the Early Classical and Hellenistic periods is interpreted as a possible indication that this area was contested, coveted by Lato, Hierapytna, and possibly Lyttos (Vogeikoff-Brogan 2012, 82).

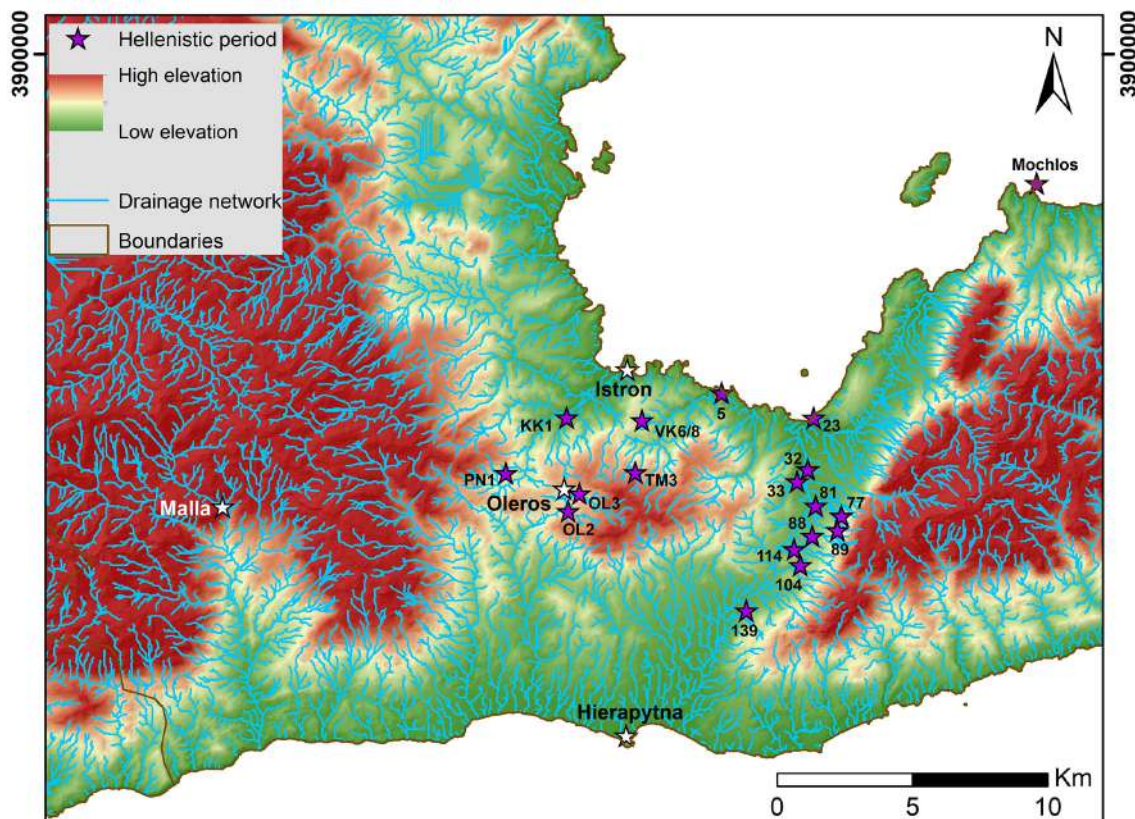


Fig. 4. Hellenistic period sites in the Ierapetra Isthmus (N. Argyriou).

⁵ For detailed maps, see Hayden 2004, fig. 23; Haggis 2005, fig. 16; Watrous *et al.* 2012, map 40.

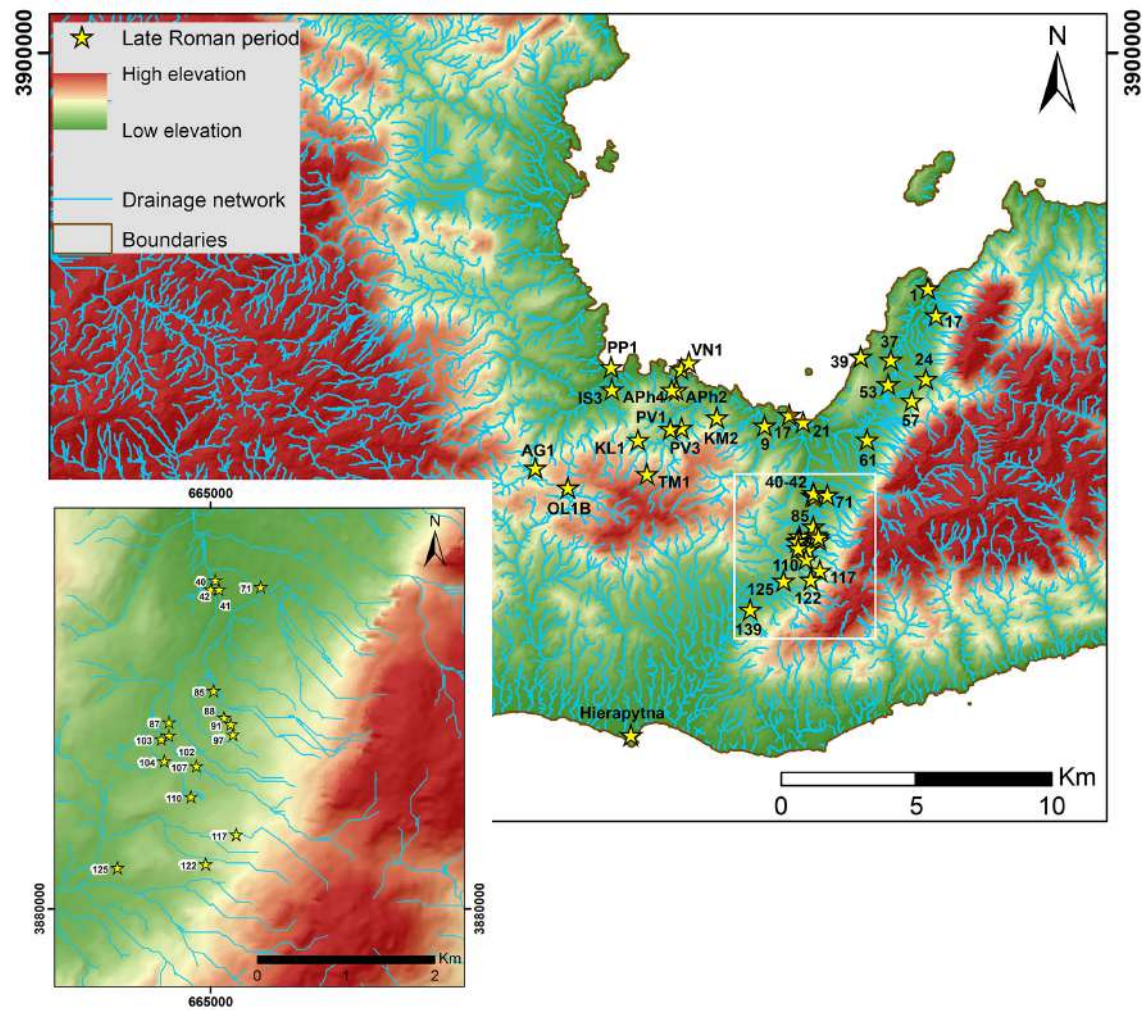


Fig. 6. Late Roman period sites in the Ierapetra Isthmus.
Inset with the south-eastern part of the isthmus. (N. Argyriou).

On the coast, in the zone of the Vrokastro Survey, settlement is seen to move from the town of Istron, on the Nisi Panteleimon promontory, to the settlement of Priniatikos Pyrgos (PP1) just west of it. Small settlements are scattered around this bay up to Kalo Chorio (KK3). In addition to this new coastal activity, settlement is focused on the Istro Valley and the Messeleroi Basin. Among these sites, most are occupied anew. Occupation really starts in the Middle Roman period (here as c.AD 150-425), when the number of farms and hamlets more than tripled, jumping from 12 sites to 35. A strong settlement continuity marks the transition from the Middle to the Late Roman period (here c.AD 425-800), with evidence for settlement through the 7th century and perhaps into the 8th century AD.

Major activity can be noticed in the isthmus plain, which shows evidence of developing commercial activity from the 1st century BC on. Kavousi (24) is the only proper settlement, but a new harbour is established on the coast, at Tholos (Haggis 2005, fig. 11-12). The impressive warehouse (Haggis 2005, 90-93, fig. 23-24) has been interpreted as a storage facility at the northern edge of an 'over-land transportation route' along the isthmus (Haggis 1996, 189-190).

This commercial use can probably be confirmed by the existence of another warehouse inland at Sta Lenika (57), south of Kavousi. Another much smaller harbour is in use in the northern part of the isthmus, at Agriomandra Bay (39).

By the 2nd century AD, the sites on the Kampos Plain have increased to nine (Haggis 2005, 87). They are clearly linked to the exploitation of the two harbours at Tholos and Agriomandra. In the Late Roman period (4th-7th centuries AD, corresponding to the First Byzantine period), the rural population reached its highest level since the Early Iron Age, with 23 sites.

The same radical change can also be seen in the Gournia Survey zone. The Roman settlement of Gournia (9) is situated just south of the Minoan town, on a coastal hill. It had quite a developed infrastructure, with water supplied by an aqueduct. The harbour of Halepa (23), does not continue after the 1st century AD. Another settlement, west of the bay, at the site of the modern harbour, was occupied in the 3rd-4th centuries AD. In the 2nd century AD the centre of the bay is occupied by a large building (21) considered to be a villa due to the presence of what has been identified as a bath (Kelly 2004, *Appendix 1*, 103-105). It has been interpreted as an estate centre (Vogeikoff-Brogan 2012, 86).

The isthmus plain is densely occupied, with many farms and hamlets dispersed along it. More than ten village-sized settlements lie on the route to the harbour, mainly established in the Early Roman period (1st centuries BC and AD). The major feature is the re-occupation of the Archaic-Classical site of Prophitis Ilias (150), south of Kato Chorio. Several features also indicate intense agricultural activity and the production of wine and oil, certainly intended for export. The large amount of imported pottery shows that it is part of an international trade network (Vogeikoff-Brogan 2012, 89-91). Furthermore, at the very centre of the isthmus, site 86 has been identified as the probable location of a workshop producing type AC1 transport amphorae, which was active in the 3rd-4th centuries AD. Almost all the sites continued to be occupied throughout the Late Roman period (defined here as AD 400-700). There is even an increase in the number of villages and hamlets (37 sites in total).

Unfortunately, the settlements on the southern coast of the isthmus are still unknown. The most recent intensive exploration has only been published in part (Chalikias, Oddo 2019; Oddo, Chalikias 2022).

2.4 THE BYZANTINE PERIOD (395-1204, INTERRUPTED BY EMIRATE OF CRETE 824-961)

The Byzantine period is among the least well-known in the region. In fact, we have slightly more data for the First Byzantine period (395-824), which seems to be a continuity of the Late Roman period. The question remains as to whether Tholos and the northern part of the isthmus region were still oriented towards Hierapytna during the 5th and 7th centuries. It seems that although Hierapytna retained its urban character, it underwent a period of transformation (Gallimore 2011, 155-159). By the 5th and 6th centuries, the loss of Hierapytna's coastal importance and its crucial role in international maritime trade routes may suggest that the harbour of Tholos was now more associated with the rural sites within the fertile Kampos Plain. The town progressively shrank to a small coastal settlement by the second half of the 7th century (Gallimore 2011, 155-159; Randazzo 2021, 158-159). This period is characterised by a shift in the economy of Crete

from a Mediterranean macro- economic dimension to a more local micro-economic one (Zanini 2019).

Between the late 7th and early 9th centuries, Arab expansion into the Mediterranean drastically changed the situation in the Aegean Sea (Leontsini 2017; Picard 2018). Fortified settlements were established on the mountains of Crete in the 7th-8th centuries (Gigourtakis 2004). Two were placed at either end of Mirabello Bay, at Oxà in the west and Liopetro in the east.

The period of the Islamic Emirate of Crete (820s-961) remains mysterious, due to the scarcity of material evidence dating from the period. Consequently, Cretan history suffers from a real gap for most of the 9th and 10th centuries (Emirate of Crete 824-961). As for settlement patterns, in his latest publications Randazzo has suggested – mainly on the basis of numismatic and ceramic evidence – that pre-existing local communities in urban and rural, coastal and inland areas of central Crete survived during the period of Islamic rule.

The Second Byzantine period (961-1204) begins with the Byzantine reoccupation of Crete after the conquest by Nikephoros II Phokas in 961. It has been suggested that most of the population may well have been concentrated in the countryside (Hammond 2017, 125-129).

In the Vrokastro Survey zone there is little increase in rural activity in the area; the countryside was occupied by a network of small settlements, fieldhouses or farms and function-specific sites (Hayden 2004, 237-247). It is quite possible that some Second Byzantine period villages were located on the same sites as their later Venetian counterparts.

In the late 10th and the early 13th centuries, the Byzantine administration established a network of fortified sites in the Cretan mountains. Liopetro was already in use before the Islamic conquest and remained active, overlooking Mirabello Bay. At the same time, a small fort was established at Mesokastella, overlooking the Ierapetra Plain. Between them, they controlled both maritime and overland routes in the northern and southern parts of the isthmus.

2.5 THE VENETIAN PERIOD (1204-1661) (FIGURE 7)

The isthmus formed part of Sitia District, the easternmost of the four administrative regions in Venetian Crete. The town of Sitia was the administrative, military, and financial capital of the territory. The castellany of Ierapetra had a fort in the town of Ierapetra and a military officer who lived there. Along with their 'magatzedes' (warehouses for storing trade goods), the harbours at Ierapetra and Pacheia Ammos served as the main trade and transport hubs in the castellany (Chatzaki 2013, 36, 39, 108-109). In the 1636 report by Lorenzo Contarini, 1,478 inhabitants were registered in the town of Ierapetra, a number close to the population of the 1583 census for the town of Sitia, at 1,391 inhabitants (Andriotis 2006, 61, 317, 526). Although Ierapetra town served as the administrative, defensive and trading reference point in the castellany, its population was not significantly larger than the region's biggest villages in the 1583 census, such as Malles with 1,483 inhabitants, or Kavousi with 637 inhabitants (Andriotis 2006, 505, 502).

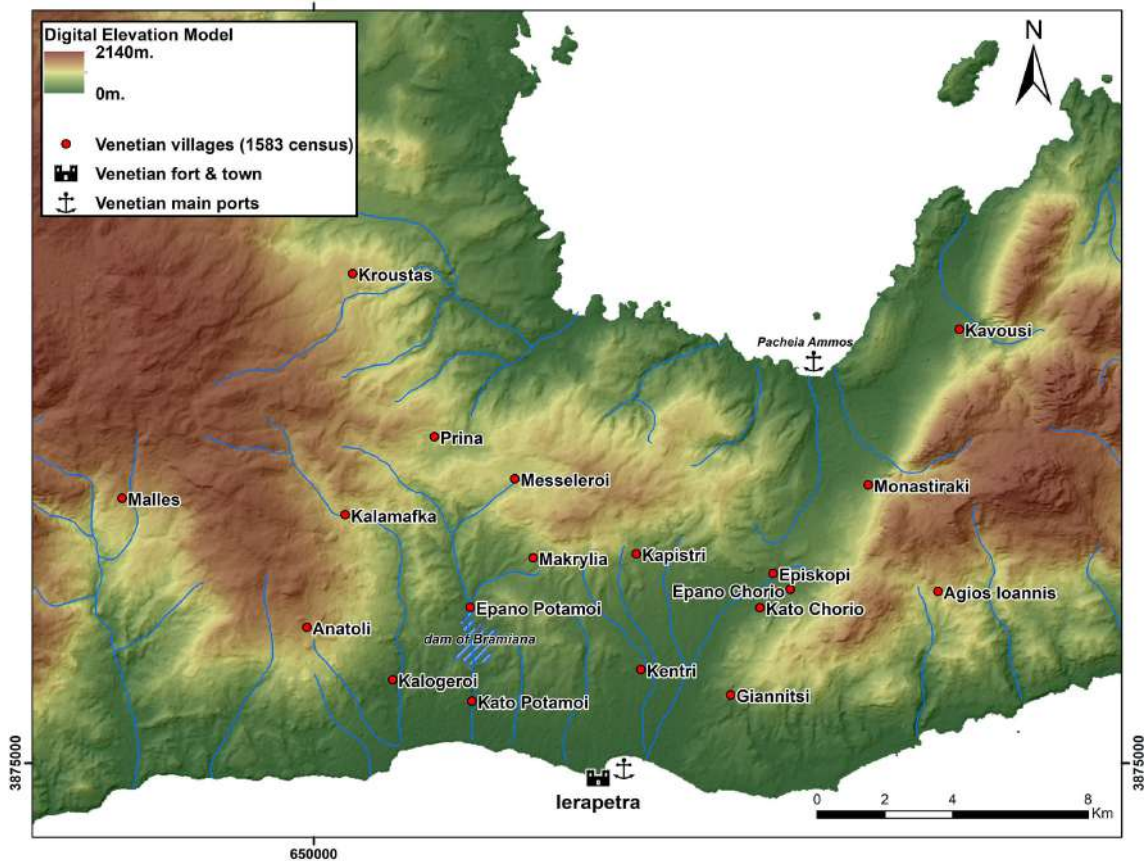


Fig. 7. Venetian sites in the wider Ierapetra Isthmus region (M. Katifori).

Apparently, the Ierapetra region retained its predominantly rural character throughout the Venetian period. The village was now the major type of settlement all over Crete (Gasparis 2020, 19). The Venetians divided the Cretan landscape up into feudal estates; each fief consisted of one or more villages and its rural periphery, composed of cultivable land, natural sources, infrastructure, churches, monasteries, small settlements, and even its peasants, who were dependent on the fief and feudal lord (Gasparis 1997, 47-125).

In the castellany of Ierapetra, 34 village names are listed in the published feudal records of the 13th-14th centuries (Gasparis 2001, 193). Among these villages, 19 were mentioned in two or more registers, one of which was the 1583 census, the only official census of the state and the most reliable among the available catalogues, registering 5,921 inhabitants in total (Andriotis 2006, 63-66). Most of these diachronically occupied villages are still inhabited nowadays, making the documentation of material remains from the Venetian period extremely difficult.

Most of the villages were situated at a distance of more than one hour's walk from the coastline and/or at locations hardly visible from coastal areas. The few villages nearer the coastline were either fortified or relied on some nearby defensible site for their protection.

Half of the population of Ierapetra was registered in twelve villages (including the town of Ierapetra), located at an altitude of up to 200 m. Their inhabitants had large cultivable plains in

the vicinity and easy access to the ports. The other half of the population was registered in eight villages, located at altitudes of between 350 and 600 m, in the eastern foothills of the Lassithi Mountains or the southern foothills of the Thrypti Mountains. Their inhabitants had abundant freshwater springs nearby and probably also access to cross-inland routes, all significant factors that influenced people's choices when deciding on permanent settlement.

CONCLUSION

Down the centuries, we can follow the different settlement patterns in the wider isthmus region reasonably well. First there were a few isolated sites inland, then the Classical *poleis* became strong nucleating points. The Hellenistic and Roman periods see a multiplication of rural sites and considerable coastal activity. Crete is then included in greater international trade networks. The number of sites probably decreases in the Second Byzantine period. Security preoccupations are evident from the creation of a network of fortified sites. In the Venetian period, the population is concentrated in villages, all of which are far removed from the coast (excepting fortified Ierapetra), and centred around agricultural activities.

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