



# Synecdemus Novus: Presenting the Dataset of Human Activities on Crete (201–1204 C.E.)

DATA PAPER

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## ABSTRACT

*Synecdemus Novus* is a dataset of published archaeological sites, buildings, and associated markers located in Crete and dating between the Late Roman Period (3rd century C.E.) and the Venetian domination of the island (1204 C.E.). The dataset, consisting of 1234 entries, lists the location, spatial coordinates, type of the site/building/marker, chronological range, and relevant scholarly references for each entry. *Synecdemus Novus* is a resource for heritage management and allows researchers to investigate the spatio-temporal dynamics of settlement patterning in Crete between aforementioned periods.

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## (1) OVERVIEW

### CONTEXT

The *Synecdemus Novus* dataset (<https://pandoradata.earth/dataset/synecdemus-novus>) compiles a list of archaeological sites, architectonic structures, or their remnants, and markers for these dating between the Late Roman Period (3<sup>rd</sup> century C.E.) and the Venetian domination of the island (1205 C.E.). It covers the following historical periods: Late Antiquity/Roman Period/Early or First Byzantine Period (mid-4<sup>th</sup> century–824), the Cretan Emirate (824–961 C.E.), and the Second or Late Byzantine Period (961–1204 C.E.) (Table 1). The dataset is named after a geographic text *Synecdemus* (or *Synecdemus*) attributed to Hierocles, a monk and geographer of the 6<sup>th</sup> century C.E. [1] The compilation consists of table of administrative divisions of the Byzantine Empire (described as Roman Empire at the time) and lists of cities therein. This work was created shortly before 535 C.E. during the reign of Justinian I. (r. 527–565 C.E.).

The *Synecdemus Novus* dataset was initially developed as part of a project investigating the chronology and impact of Arab expansion on the island of Crete from the

second half of the 7<sup>th</sup> until the first half of the 9<sup>th</sup> century C.E. To better understand the settlement dynamics in the region and contextualize the subsequent Arab period, the dataset was expanded chronologically. This was achieved through bibliographic research of all published archaeological sites and architectonic monuments (or markers for these) in Crete dating between 201 and 1205 C.E.

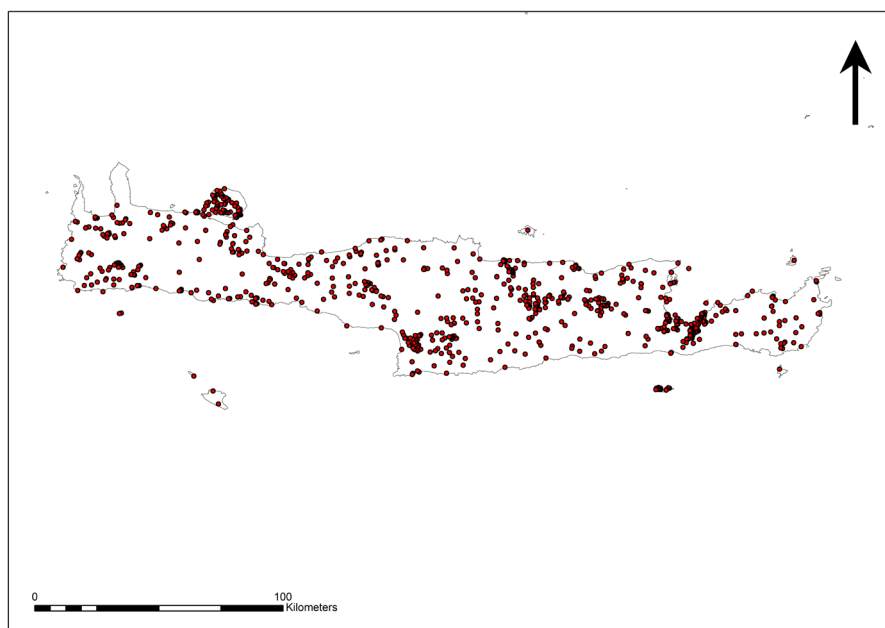
Byzantine archaeology is a relatively young research field relying on typically unsystematic and fragmentary data [2, 3]. This translates into terminological inconsistencies, insufficient and inaccurate chronological descriptions, low resolution site descriptions, lack of research for some periods, uncritical re-use of historical models. Currently we lack an inventory of sites, monuments, and other associated markers in Crete during the Byzantine and Arab periods.

### SPATIAL COVERAGE

Data was collected for the island of Crete, the largest island (area of 8,450 km<sup>2</sup>) of the Aegean Sea and the neighbouring islets of the Cretan and Libyan Seas. Figure 1 shows the spatial distribution of all data entries included in the dataset.

ABSOLUTE DATES	PERIOD	ALTERNATIVE DESCRIPTION 1	ALTERNATIVE DESCRIPTION 2
201–324	Late Roman Period		Late Antiquity (up to 650)
324–823	First Byzantine Period	Early Byzantine Period	
824–961	Arab period	Cretan Emirate	Islamic Crete
962–1204	Second Byzantine Period	Late Byzantine Period	Middle Byzantine Period
1205–1669	Venetian Period		

**Table 1** Periodisation of the studied period.



**Figure 1** Sites mentioned in the database (from 201 to 1205 C.E.).

## DESCRIPTION

Crete including the islets of Cretan and Libyan Seas.

Northern boundary: 35.7  
Southern boundary: 34.8  
Eastern boundary: 26.4  
Western boundary: 23.5

## TEMPORAL COVERAGE

Collected data refers to sites, archaeological and architectonic structures, and other markers informing on these (e.g., coins) dating from the Late Roman Period to the beginning of the Venetian domination of Crete (201–1205 C.E.). Figure 2 shows the temporal coverage of database entries.

## (2) METHODS

The dataset was compiled from bibliographic research of archaeological, historical, and ethnographic reports. This included a systematic analysis of travel reports dating to the 16<sup>th</sup> to 19<sup>th</sup> centuries [5, 6], archaeological reports from the Athenian Archaeological Society since 1836 (Archaialogikon Deltion) and other Greek and foreign thematic publications for the island of Crete dating back to the first sporadic excavations in the mid-19<sup>th</sup> century.

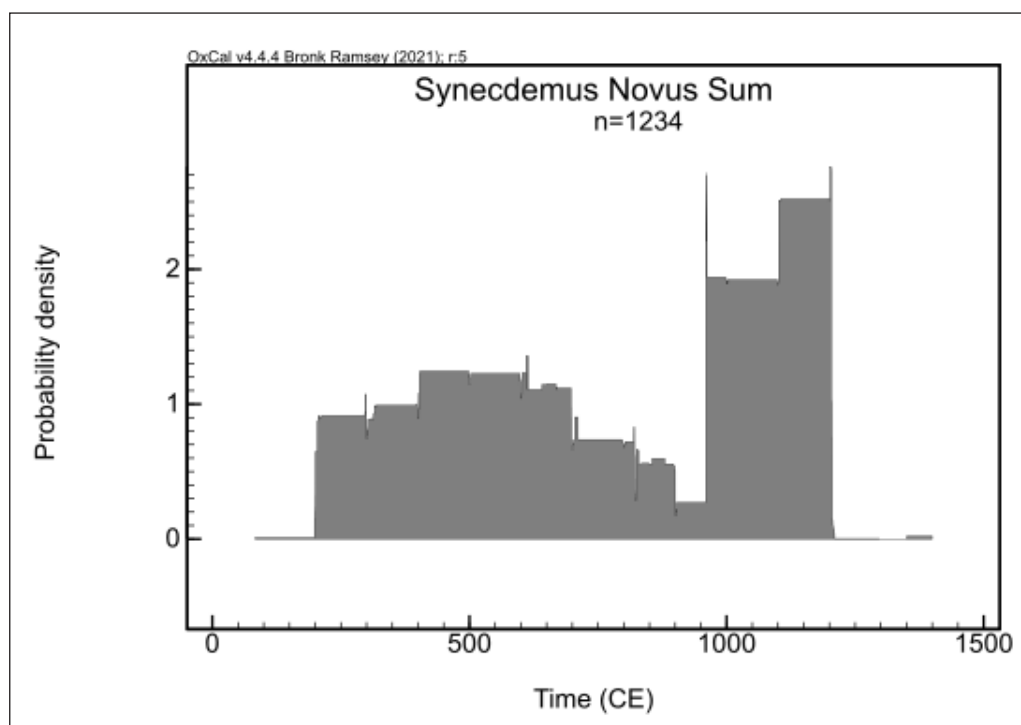
The starting point of the database was the compilation of about 300 sites published in the “digitalcrete” database created by FORTH (Foundation for Research and Technology (<http://digitalcrete.ims.forth.gr/>)). This database is not available since 2020/2022 but we confirmed all entries by consulting given bibliography.

Another major source of data were the publications of D. Tsougarakis [7], which lists over 100 sites dating to the Byzantine period, and the work of I. F. Sanders [8] for Roman sites up to the mid-7<sup>th</sup> century. We also included monographs and articles from archaeological excavations, surface surveys, and the reports of the Greek Archaeological Service (journals *Archaialogikon Deltion*, *Ergon*). Finally, we relied on literature relating to the local history of the various Cretan regions and dealing with the ecclesiastical history of buildings.

There is currently no consensus on the periodisation and chronological categories for Late antiquity and Early Middle Ages in Crete [9]. Certain periods (Arab, Muslim, Ottoman) are poorly investigated or chronological assignments are made with little supporting evidence. For instance, coastal sites in Crete are often dated up to the 7<sup>th</sup> century under the assumption that Arab raids ended coastal occupations [10, 11, 12].

## CONSTRAINTS

The main limitation of the dataset is chronological uncertainty. This is primarily attributed to the absence of standardised period classifications whenever original sources failed to report chronological ranges, presenting instead only period names [8, 9]. For instance, some authors use the terms Late antiquity, Early Christianity, Late Roman, Early or First Byzantine Periods, Dark Ages when buildings or sites likely date between 4<sup>th</sup> and 7<sup>th</sup> centuries. In some occasions this period may even include the 9<sup>th</sup> century for some authors. While in other instances, such descriptions are used as synonyms in



**Figure 2** Summed probability distribution of data ranges for database entries. Graph was produced using OxCal v. 4.4.3. [4].

source publications. Where source publication gave a numeric chronological range this was included in the database. When source publication does not clarify the absolute chronology, we consulted the published artefacts and refined the dating. If no artefact was published or was non diagnostic, we entered the widest possible chronological range (e.g. Early Byzantine period: 4<sup>th</sup> century to 824, or Byzantine period: 4<sup>th</sup> century to 824 and 961 to 1204).

### (3) DATASET DESCRIPTION

#### OBJECT NAME

Synecdemus Novus

#### DATA TYPE

The Synecdemus Novus dataset contains 1234 entries. This is organized in a table format and made available as Excel and CSV file types. Data collection started during 2019 and was completed on 30 December 2022.

However, as the authors are still active in the region, the database will be regularly updated with new published records at least once a year.

Vera Klontza-Jaklova, Adam Geisler and Manolis Klontzas participated in the data collection; the authors of the table format are Vera Klontza-Jaklova and Ricardo Fernandes, the actual input of each entry was by Vera Klontza-Jaklova. Data checks by Vera Klontza-Jaklova and Ricardo Fernandes.

The dataset is accessible within the Pandora Data Earth data platform via the Filippos data community.

The table contains the following fields:

ID: unique sequential integer that identifies each entry in the dataset.

Site: name of the site. Since the transcription of Greek names varies across languages or ancient site names are used (e.g. Tsoutsouros, Tsoutsouro, ancient Inatos), we chose the most frequently occurring variant in the bibliography. Naming alternatives are given in the column Notes.

Location accuracy: Whether the exact location of the site or architectonic structure is known (Y) or not (N).

Literary sources: If sites are mentioned in literary sources dating to historical range under study, these are marked Y otherwise N.

Coordinates are reported in decimal degrees relative to WGS84 system (fields Latitude and Longitude).

Min\_date: Earliest possible date

Max\_date: Latest possible date.

Site type: all site types documented in one location are named.

Settlement	Village, habitation area, or any evidence of human activity in landscape if no other specifying factor was present.
City	Urban centre with administrative responsibilities. Usually sites mentioned by written sources, or sites described in publications as city/town, or sites with city features (forum, regular grid of streets and plots).
Hamlet	If the author mentions the site as a hamlet (isolated, single building unit)
Fortification	Fortified settlement, hillfort, castle, fortification construction or its part(s).
Port	Site with port/harbour features or described as port in ancient sources or in the related publications.
Cemetery	At least one grave.
Cistern	Built water tank.
Aqueduct	Part of a structure conduit to convey water.
Water construction	In some cases, the authors state that there was a structure related to water management at the site, but they do not specify what it was and we were not able to clarify the specific build type.
Church	Excavated and preserved ecclesiastical building (chapel, basilica, or any other type of church).
Monastery	Excavated or preserved monastic features, or monastery mentioned in written sources.
Coin	Arabic coins were mentioned because they are often the only evidence of land use during the monitored period. As Miles states, the coin documents human activity in the particular region and can be used as a settlement identifier for 824–961 C.E. period [10]. Coins are also mentioned in cases the particular coin was used for more accurate dating of a context.

Other fields:

Bibliography 1: The publication where the site was mentioned for the first time.

Bibliography 2: Publication where the bibliography relevant to the site is mentioned.

Doi: Publication DOI, if available.

Notes: Other information. Included in the field were classifications of historical and cultural monuments, notes on site location, and variants on site name.

#### FORMAT NAMES AND VERSIONS

The dataset is made available in Excel and CSV formats.

#### CREATION DATES

The pilot data collection started 2018, the systematic data collection began in the summer of 2019 and ended in December 2022.

## DATASET CREATORS

The first dataset was created by Vera Klontza-Jaklova and Adam Geisler. Subsequently, Vera Klontza-Jaklova, Manolis Klontzas, and Adam Geisler collected the other data, which the first author revised. Ricardo Fernandes and Vera Klontza-Jaklova worked on the structure of the database and final data checks.

## LANGUAGE

English

## LICENSE

[Creative Commons Attribution Share-Alike](#)

## REPOSITORY LOCATION

<https://pandoradata.earth/en/dataset/synecdemus-novus>

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## (4) REUSE POTENTIAL

The Synecdemus Novus dataset serves as a valuable resource for heritage management, providing a foundation for research into settlement patterns on the island of Crete and facilitating investigations into their correlation with other historical dynamics.

This comprehensive database can be used by other researchers and projects, allowing them to build upon the existing data, enhance its quality, or simply use the data for their own studies. In the ever-evolving field of archaeology, we acknowledge that we are perpetually working with incomplete data. Consequently, the data base effectively highlights areas where there are gaps, whether they be geographical, chronological, or methodological, such as the challenge of dating certain monuments, and identifies the information that is currently missing.

We are committed to the ongoing expansion of this project, and plan to expand data collection to other Aegean regions.

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## COMPETING INTERESTS

The authors have no competing interests to declare.

## AUTHOR CONTRIBUTIONS

Vera Klontza-Jaklova: Project leader, author of the database, data collecting, revision of individual entries.

Adam Geisler: Data collection

Manolis Klontzas: Data collection

Ricardo Fernandes: Database structure revision, data modelling.

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