Borsod Region Bronze Age Settlement



Celebrating 10 Years of Collaborative Research on Bronze Age Tells

Celebrating 10 Years of Collaborative Research on Bronze Age Tells

The BORBAS project was established in 2012 and is carried out in close cooperation with the Department of Prehistory and Archaeology, University of Miskolc, the Department of Prehistoric Archaeology, University of Cologne, and the Herman Ottó Museum at Miskolc.

BORBAS focuses on the multi-layer settlement mounds of the Hatvan and Füzesabony periods along the foothills of the Bükk mountains and on the adjacent lowlands of the Borsod plain.

Instead of applying covering models to Bronze Age tell communities throughout the Carpathian Basin and subsuming variability under abstract notions of ‘social evolution’ or ‘political economy’, BORBAS seeks to contribute to a more nuanced understanding of tell-living and the different regional traditions of tell communities by turning back to the evidence and allowing for variability in local manifestations and trajectories.

With this presentation – for all those interested, and in particular our past and present collaborators and students – we want to commemorate and celebrate the 10 years continuity of our project.

Acknowledgements

Over the past decade BORBAS has received the kind support of numerous institutions and individuals for which we are much obliged.

The continuous financial, administrative and logistical support of our respective institutions, the University of Miskolc, the University of Cologne, and the Herman Ottó Museum at Miskolc is gratefully acknowledged.

Acknowledgements

Special thanks go to all our colleagues and students from Miskolc, Cologne and other universities who participated in BORBAS' research during the past decade.

You know who you are, and we owe many enjoyable months of fieldwork and lively discussions accompanied by the occasional bottle of pálinka!





Acknowledgements

In 2019 the BORBAS project entered into cooperation with ArchaeoConnect, Tübingen, whose support during our fieldwork seasons and beyond is greatly appreciated!

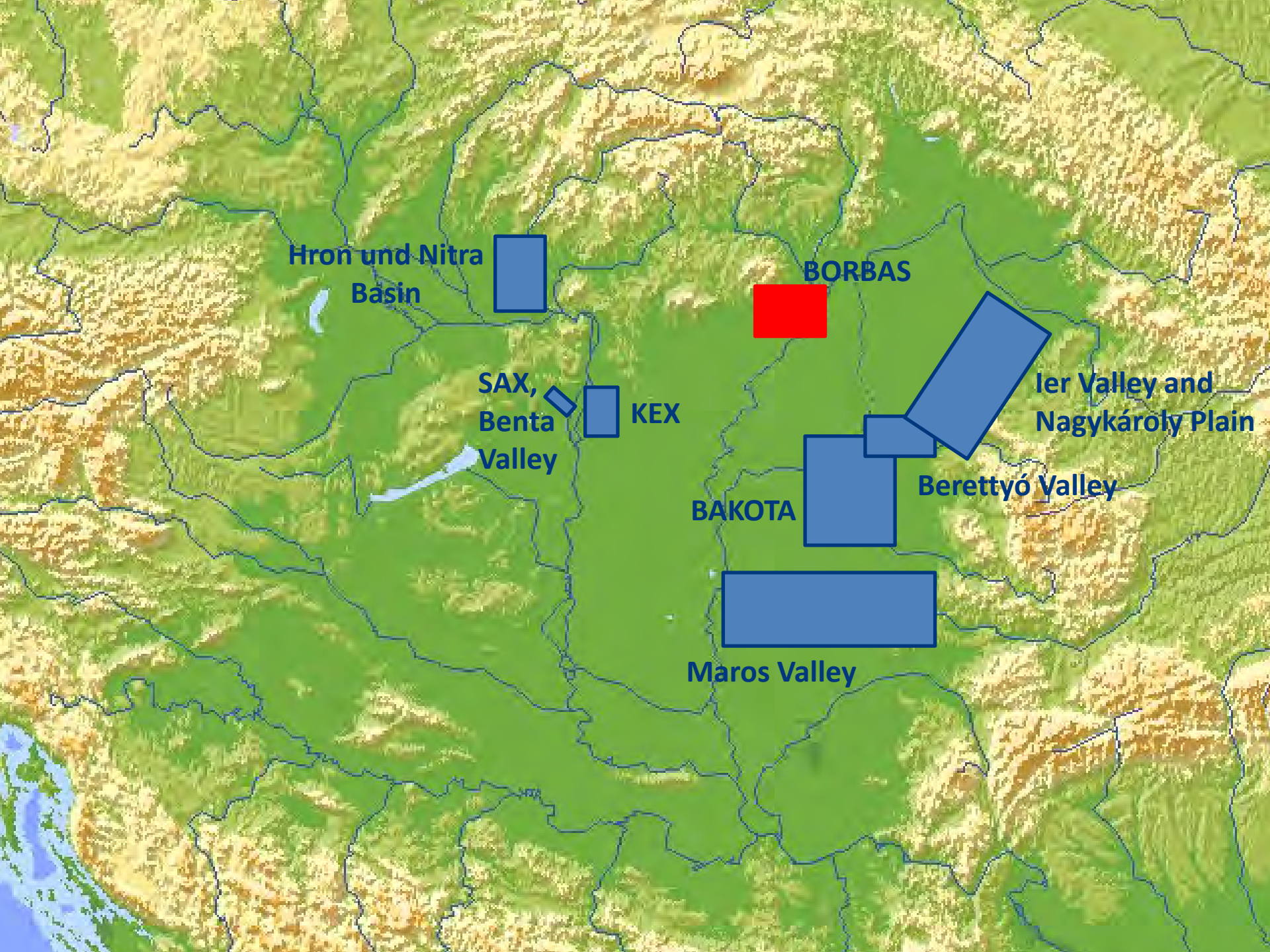
Archaeo Connect

And last but certainly not least …

We are glad to announce that the future work of BORBAS and the continuity of our project will be most generously supported by:



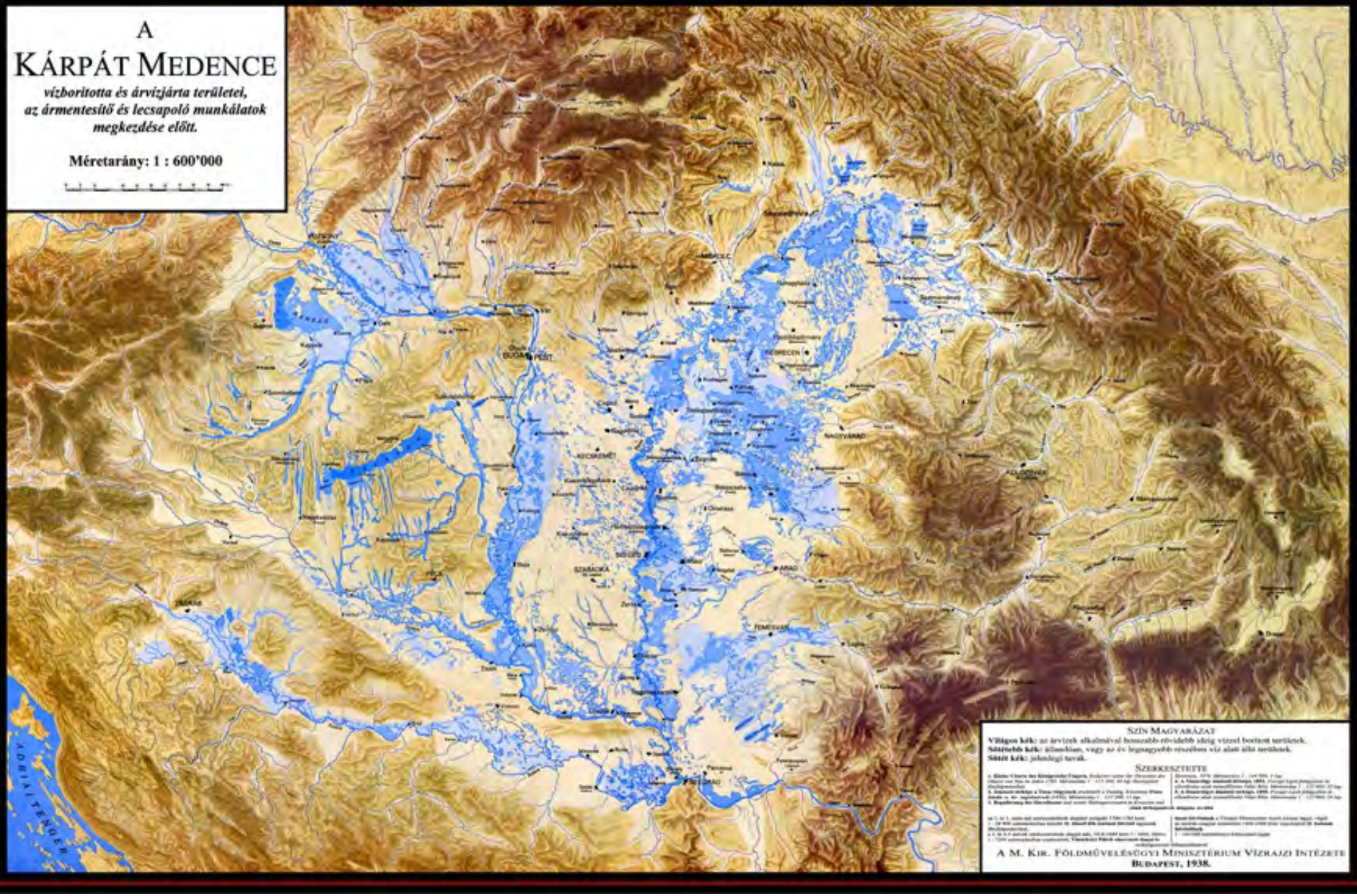
FOUNDATION FOR
THE STUDY AND PRESERVATION OF TELLS
IN THE PREHISTORIC OLD WORLD


Hron und Nitra Basin
BORBAS
SAX, Benta Valley
KEX
Ier Valley and Nagykároly Plain
Berettyó Valley
BAKOTA
Maros Valley

A KÁRPÁT MEDENCE

vízborította és árvízjárta területei, az ármentesítő és lecsapoló munkálatok megkezdése előtt.

Méretarány: 1 : 600'000



SZÍN MAGYARÁZAT

Világos kék: az árvizek alkalmával hosszabb-rövidebb ideig vízzel borított területek.

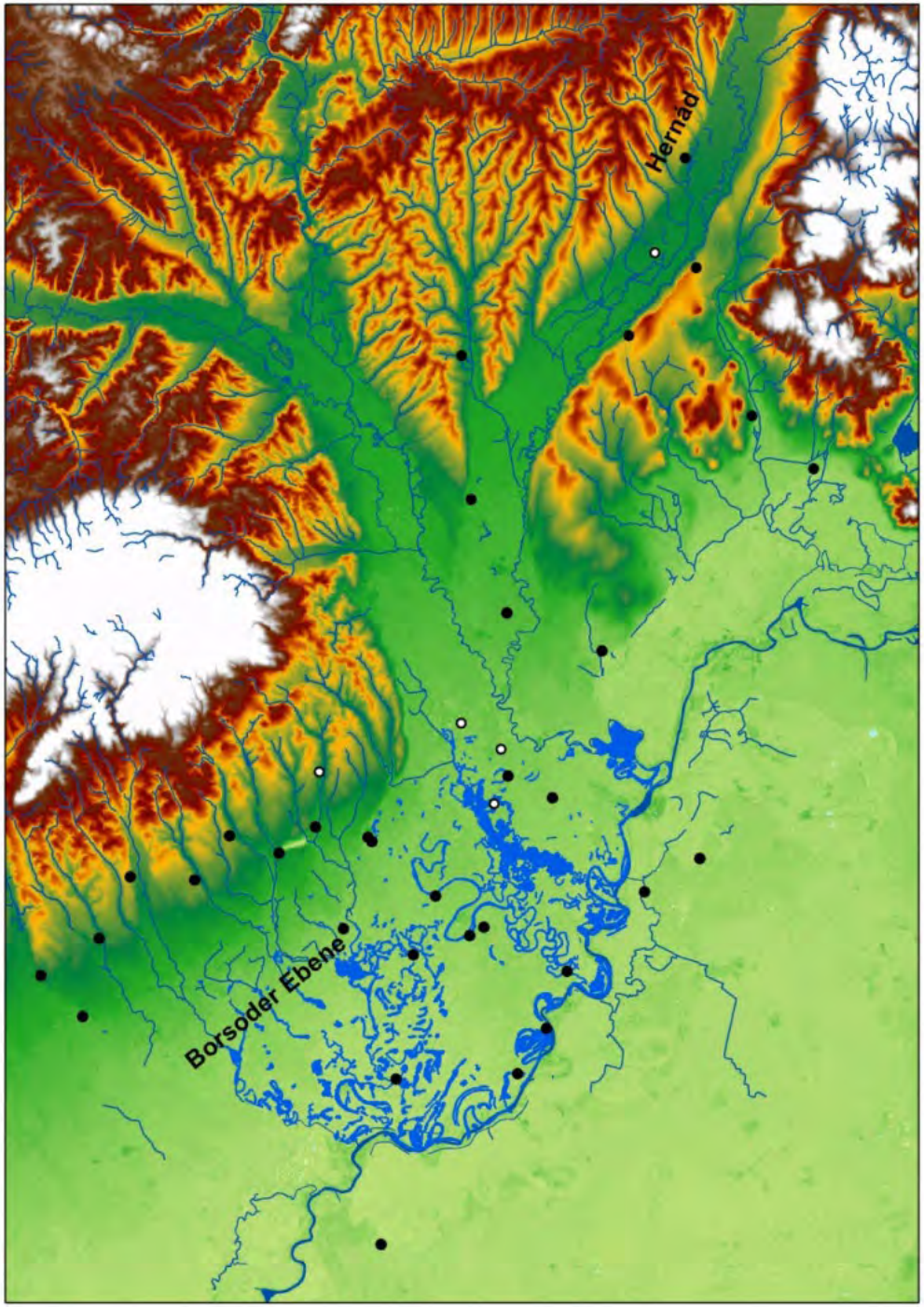
Sötétebb kék: állandóan, vagy az év legnagyobb részében víz alatt álló területek.

Sötét kék: jelenlegi tavak.

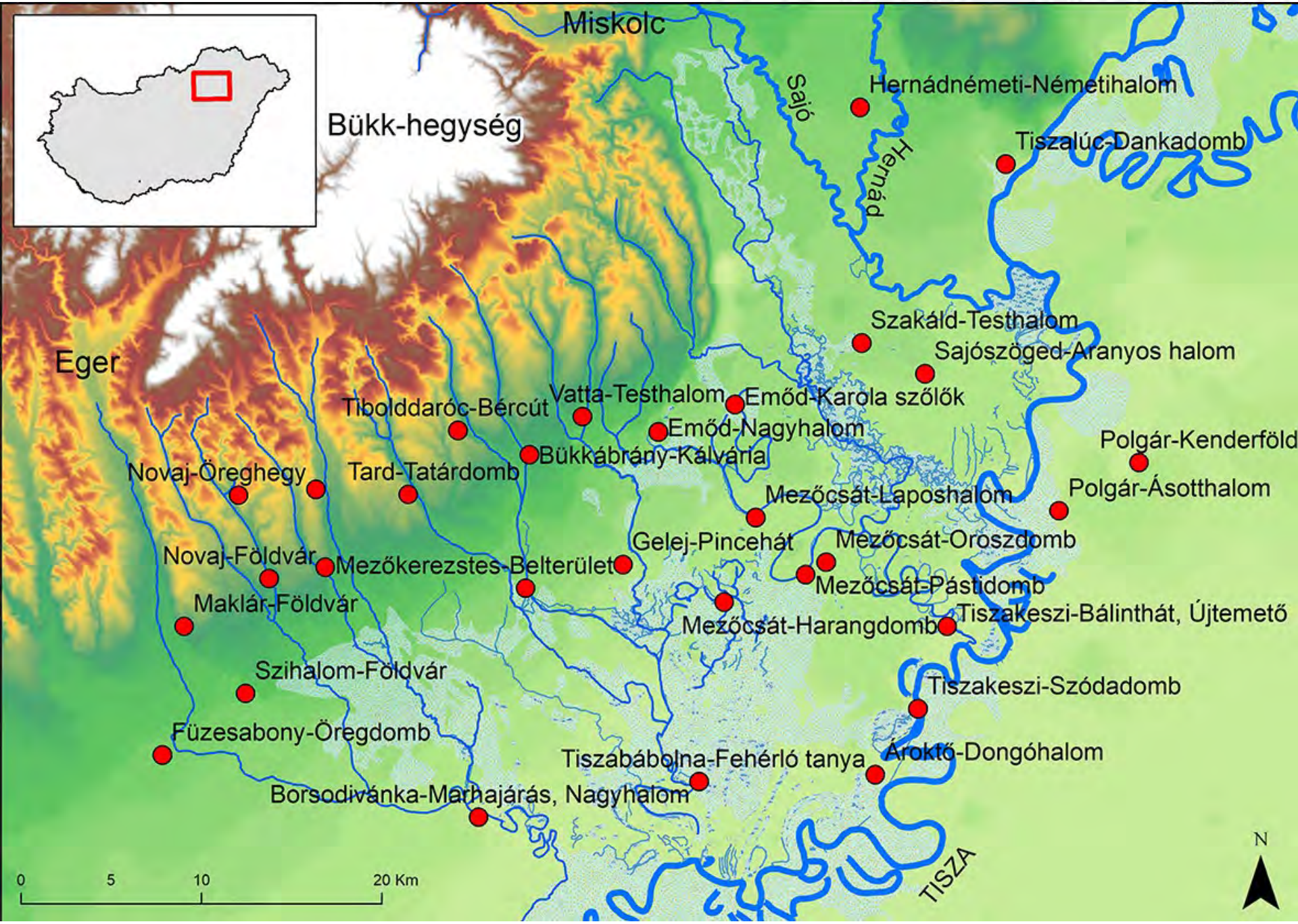
SZERKESZTETTE

A M. KIR. FÖLDMŰVELÉSÜGYI MINISZTÉRIUM VÍZRAJZI INTÉZETE

BUDAPEST, 1938.



◄ Distribution map of the Hatvan and Füzesabony period settlements on the Borsod plain and in the foothill zone of the Bükk mountains.


Miskolc
Bükk-hegység
Sajó
Hernád
Hernádnémeti-Némethihalom
Tiszalúc-Dankadomb
Szakáld-Testhalom
Sajószöged-Aranyos halom
Eger
Vatta-Testhalom
Emőd-Karola szőlők
Tibolddaróc-Bércút
Emőd-Nagyhalom
Polgár-Kenderföld
Bükkábrány-Kálvária
Novaj-Öreghegy
Tard-Tatárdomb
Polgár-Ásotthalom
Mezőcsát-Laposhalom
Gelej-Pincehát
Mezőcsát-Oroszdomb
Novaj-Földvár
Mezőkerezstes-Belterület
Mezőcsát-Pástidomb
Maklár-Földvár
Tiszakeszi-Bálinthát, Újtemető
Mezőcsát-Harangdomb
Szihalom-Földvár
Tiszakeszi-Szódadomb
Füzesabony-Öregdomb
Tiszabábolna-Fehérló tanya
Ároktő-Dongóhalom
Borsodivánka-Marhajárás, Nagyhalom
TISZA
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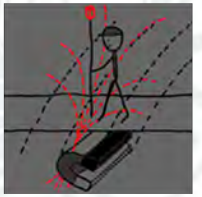






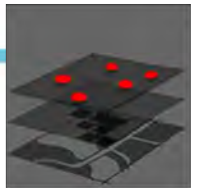










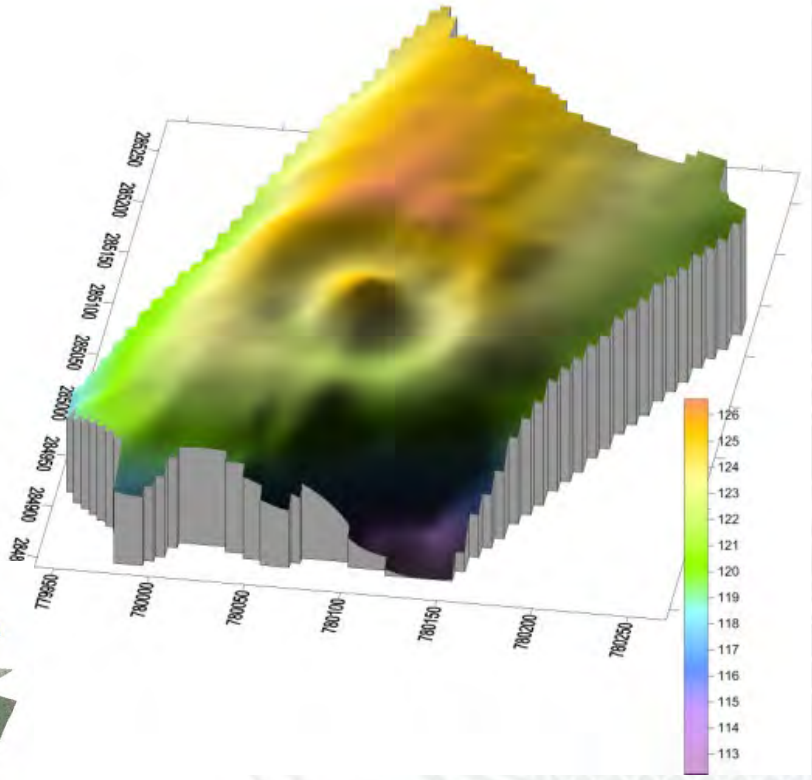






BORBAS: Methods

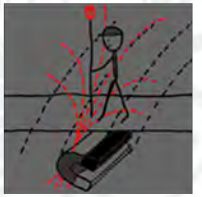


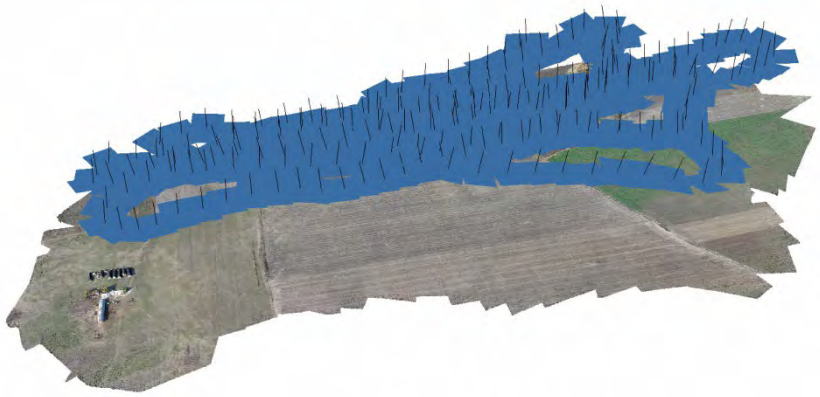

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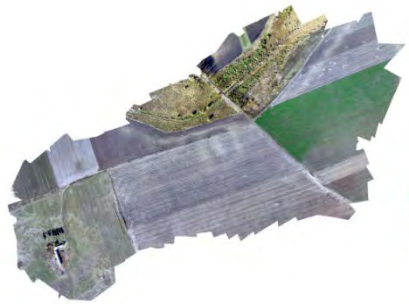


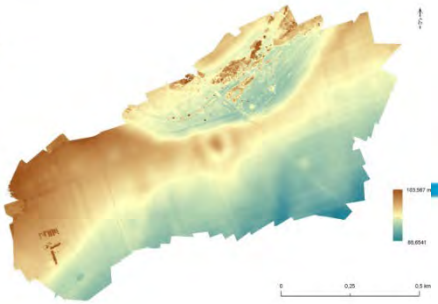


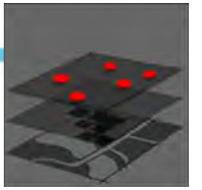














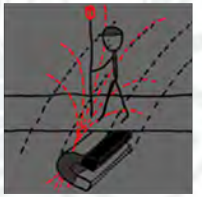






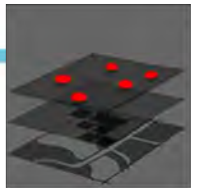












BORBAS: Methods



→ Verification of sites according to Kalicz (1968) 👍

→ GIS 👍

→ aerial photography 👍

→ DEM 👍

→ systematic surface survey (👍)

→ Magnetometer Survey 👍

→ environmental reconstruction (pollen, macro remains)

→ core drilling

→ excavation(s): Tell / outer settlement (started: Borsodivanka)

BORBAS: Methods

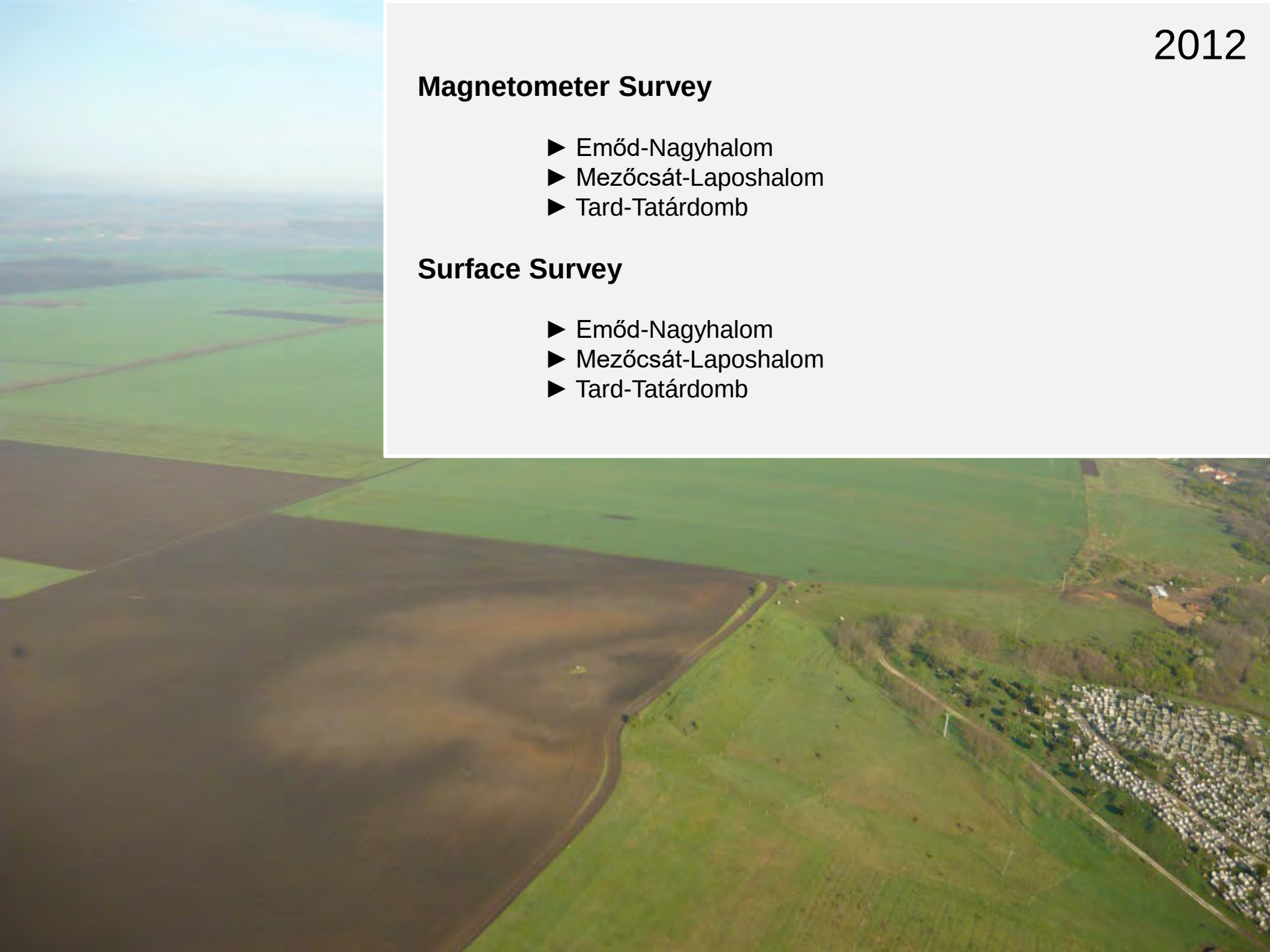
2012

Magnetometer Survey

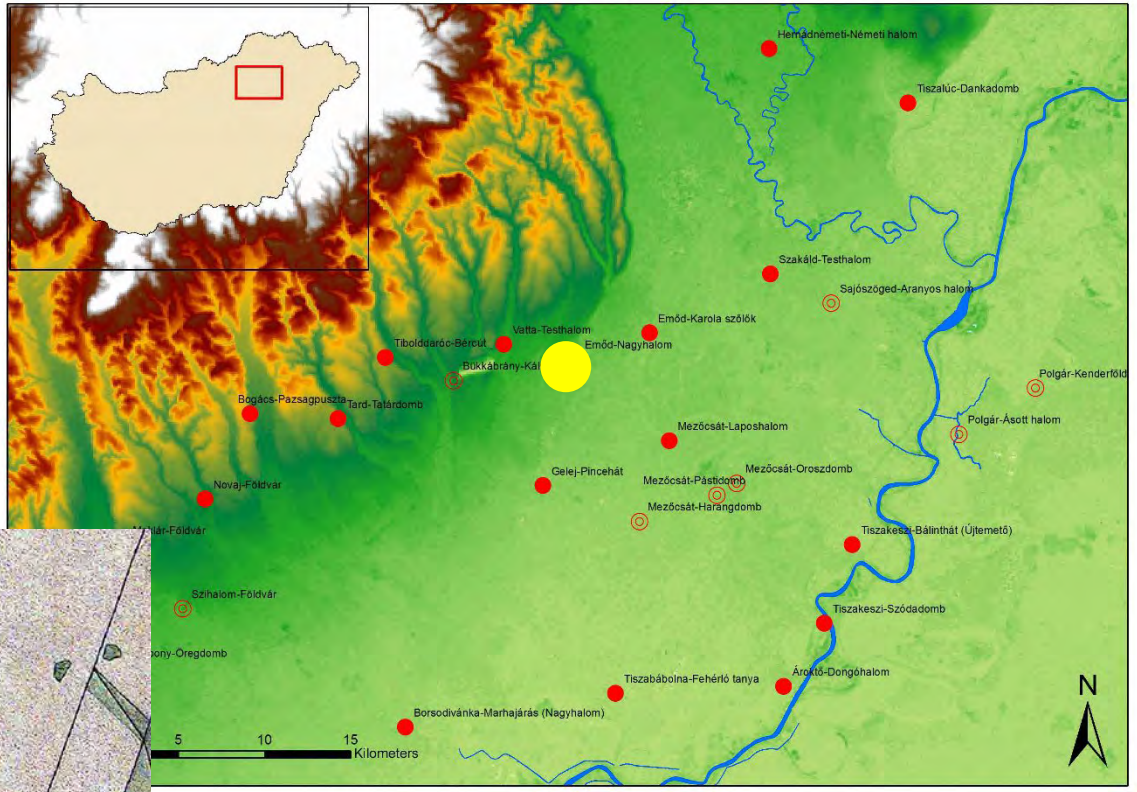
- Emőd-Nagyhalom
- Mezőcsát-Laposhalom
- Tard-Tatárdomb

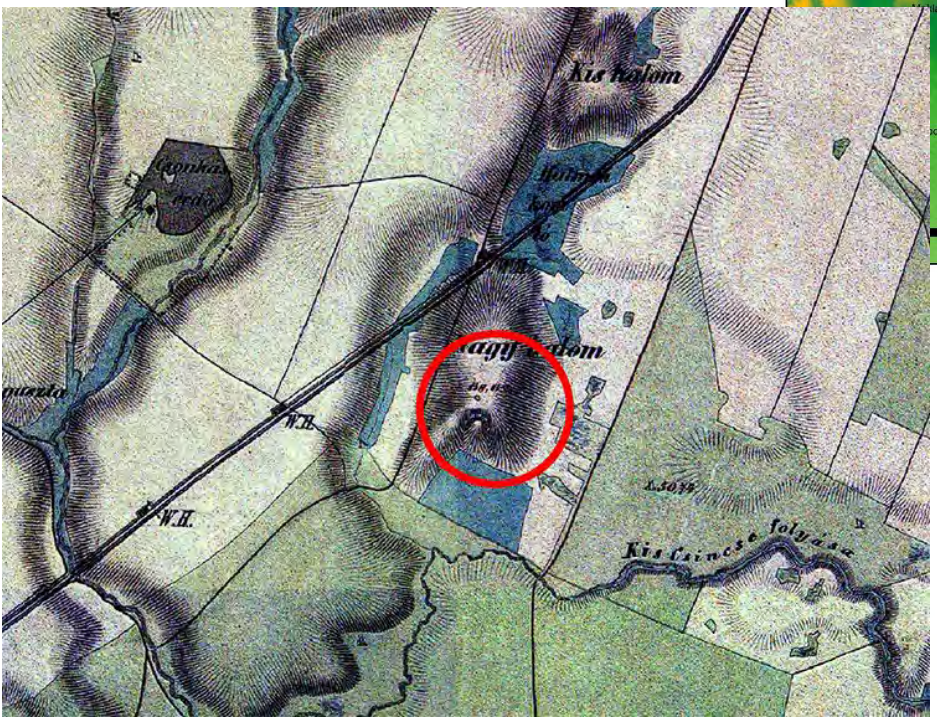
Surface Survey

- Emőd-Nagyhalom
- Mezőcsát-Laposhalom
- Tard-Tatárdomb



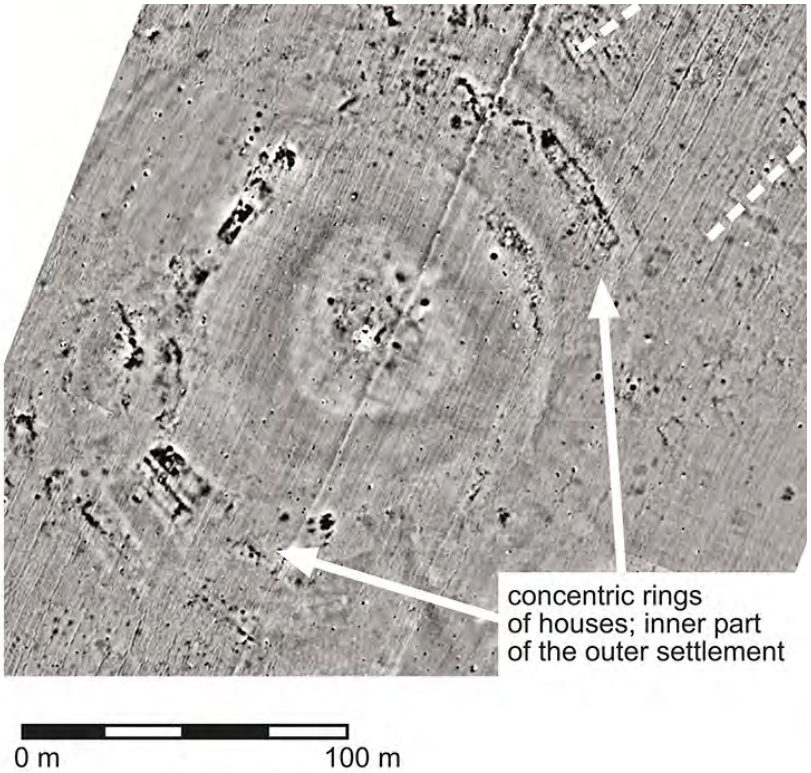
► Emőd-Nagyhalom







BORBAS 2012



▲ Emőd-Nagyhalom. Magnetometer data of the tell-like central part of the site and part of the outer settlement.





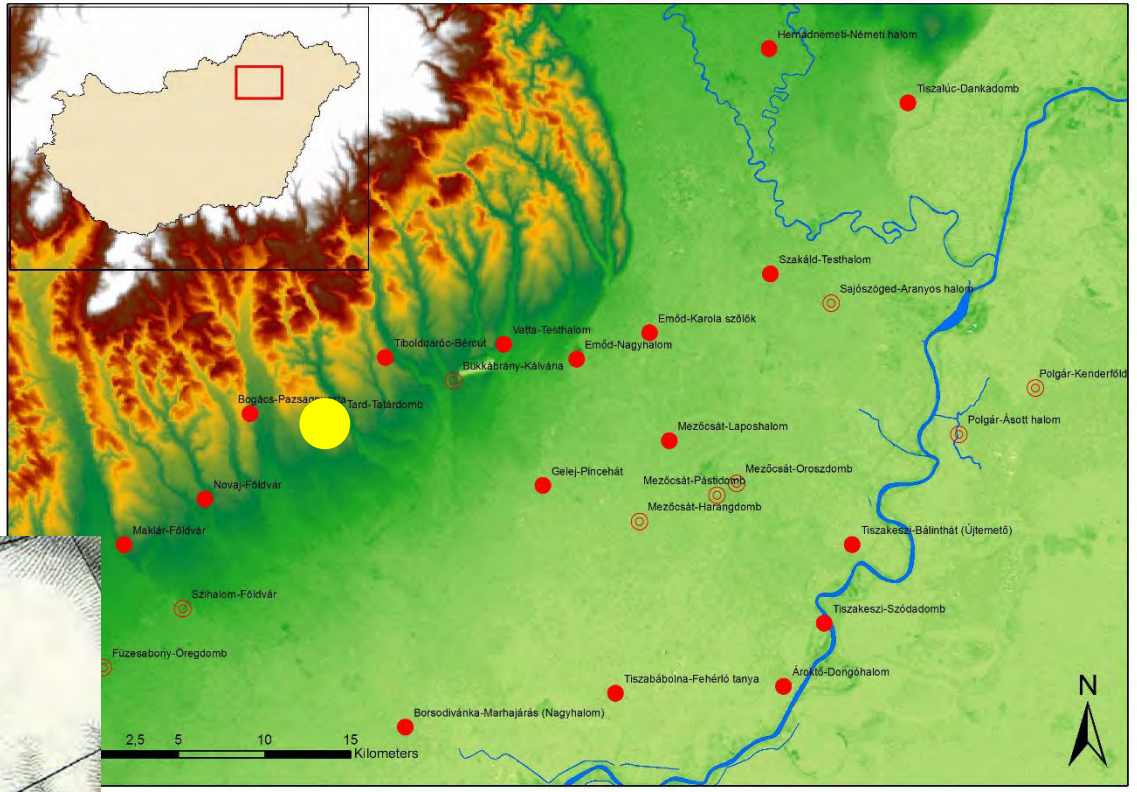
BORBAS 2012

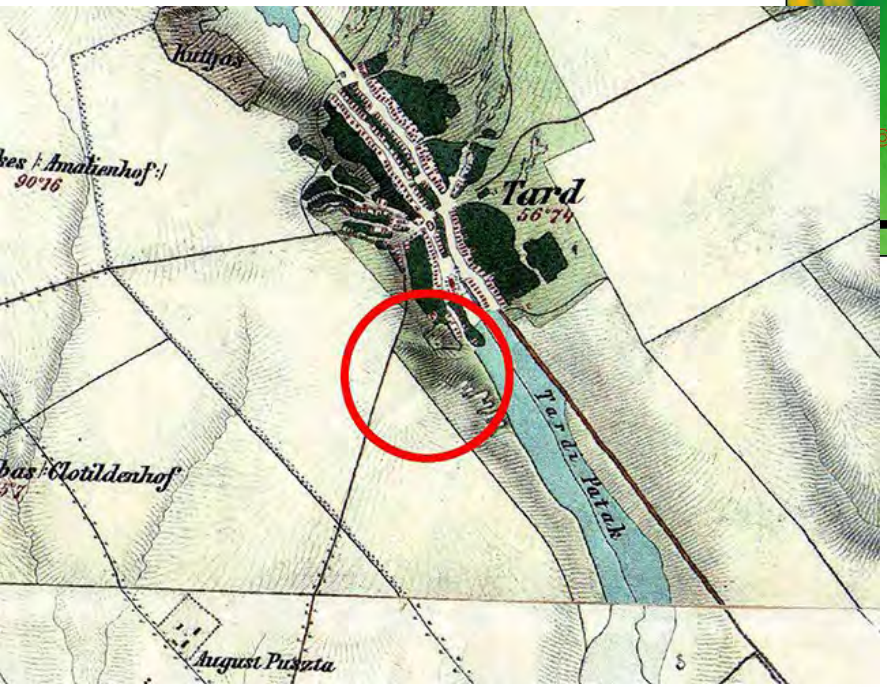




BORBAS 2012

► Tard-Tatárdomb

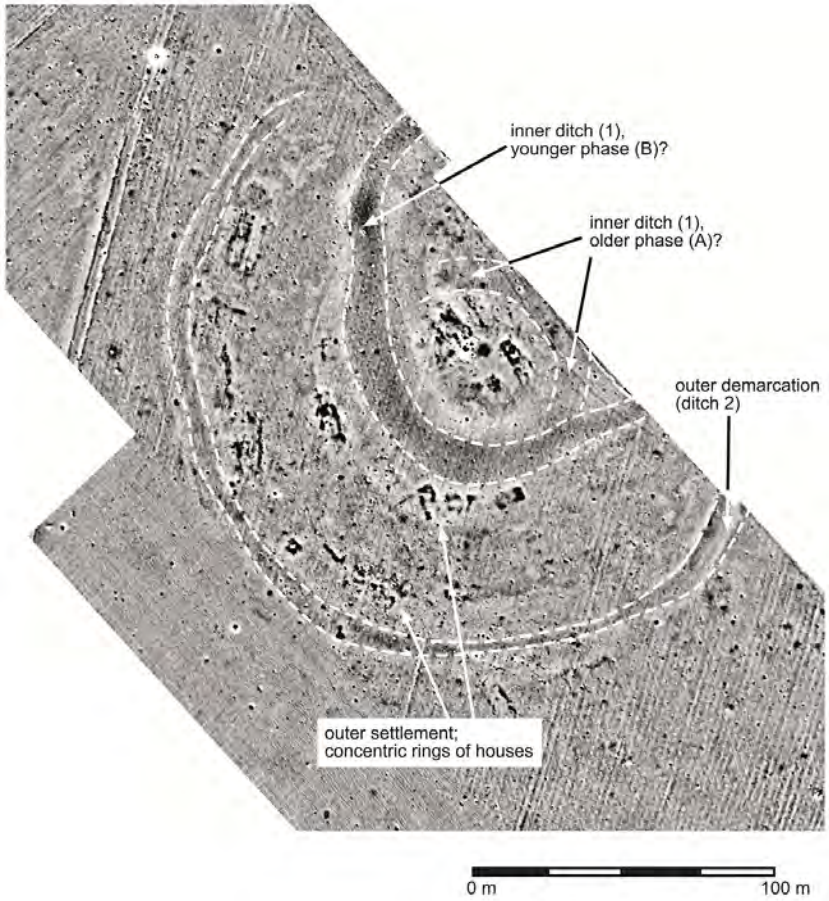








BORBAS 2012



▲ Tard-Tatárdomb. Interpretation of the magnetometer data showing the two-phase inner ditch enclosing the central tell-like part of the site.



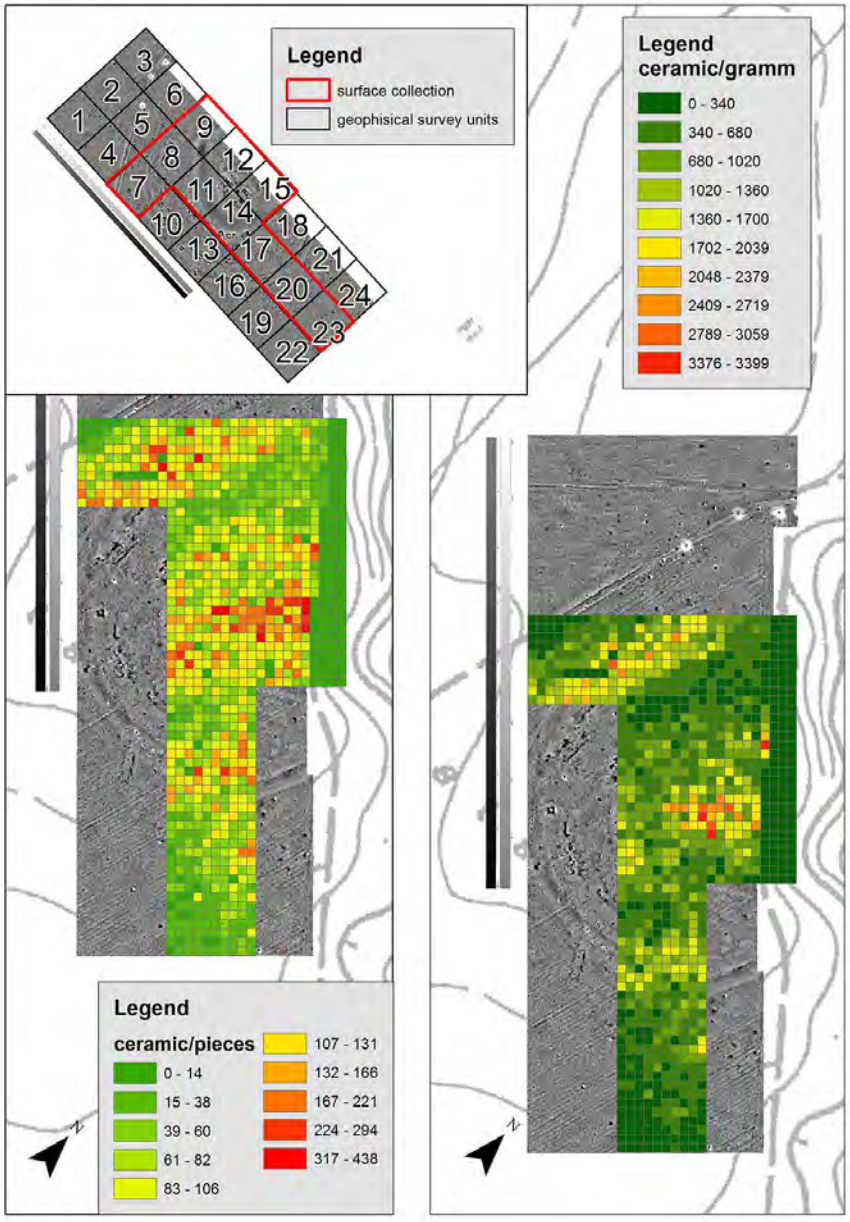




BORBAS 2012



BORBAS 2012





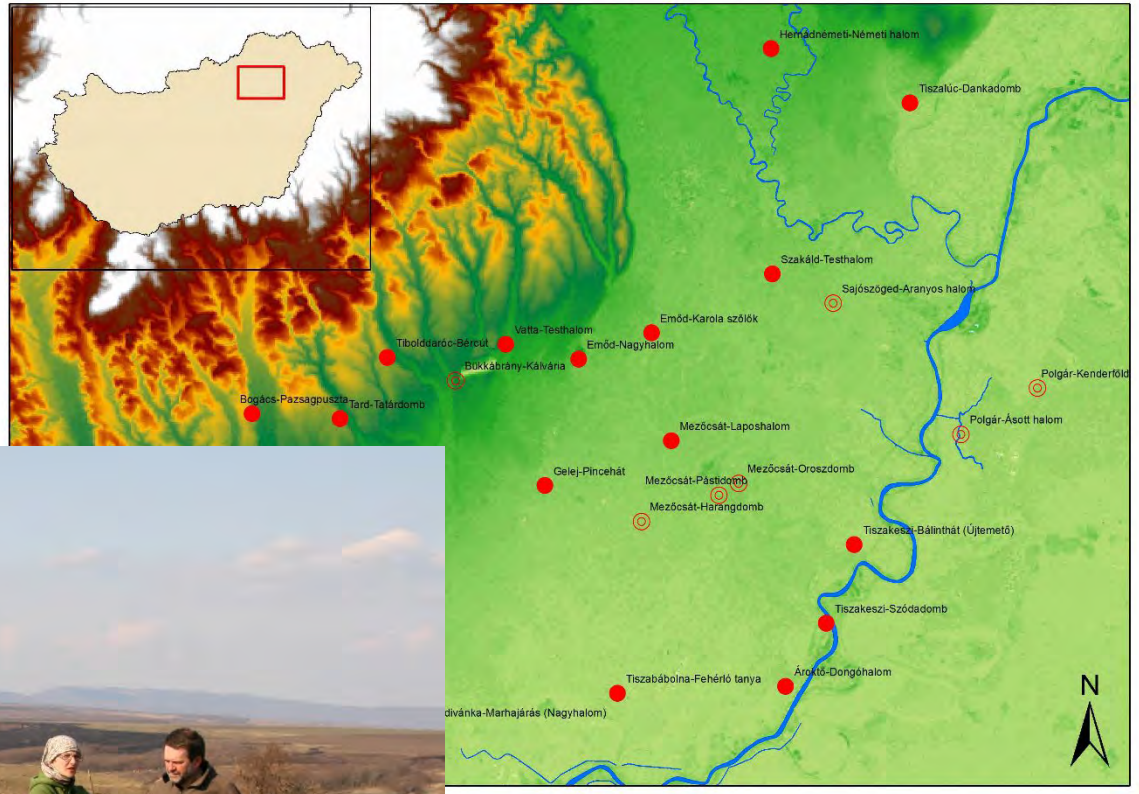
◄ Tard-Tatárdomb. Results of the surface survey in 2012.



BORBAS 2012

► Social Life on BORBAS Tells





BORBAS 2012





BORBAS 2012



▲ The first visit to Emőd-Karola szőlők.



▲ The first visit to Hernádnémeti-Németihalom.



▲ ► A visit to Ároktő-Dongóhalom.



BORBAS 2012



▲ The previous surface survey at Ároktő-Dongóhalom in 2008.



BORBAS 2012

▲ Wine tasting in Tokaj.



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▲ At the Tisza near Tiszakeszi-Szódadomb.



BORBAS 2012

▲ Accomodation at Miskolc University campus







BORBAS 2012



2013

Magnetometer Survey

- Emőd-Nagyhalom
- Mezőcsát-Laposhalom
- Tiszabábolna-Fehérló tanya
- Tiszakeszi-Szódadomb
- Vatta-Testhalom

Surface Survey

- Emőd-Nagyhalom
- Gelej-Pincehát (Pincehalom)
- Mezőcsát-Laposhalom
- Szakáld-Testhalom
- Tiszabábolna-Fehérló tanya
- Tiszakeszi-Szódadomb
- Vatta-Testhalom

Preliminary Core Drilling

- Mezőcsát-Laposhalom
- Tard-Tatárdomb



► Core drilling for a pollen profile close to Szakáld-Testhalom.



BORBAS 2013







▲► Core drilling for a pollen profile close to Tiszabábolna-Fehérló tanya.

BORBAS 2013



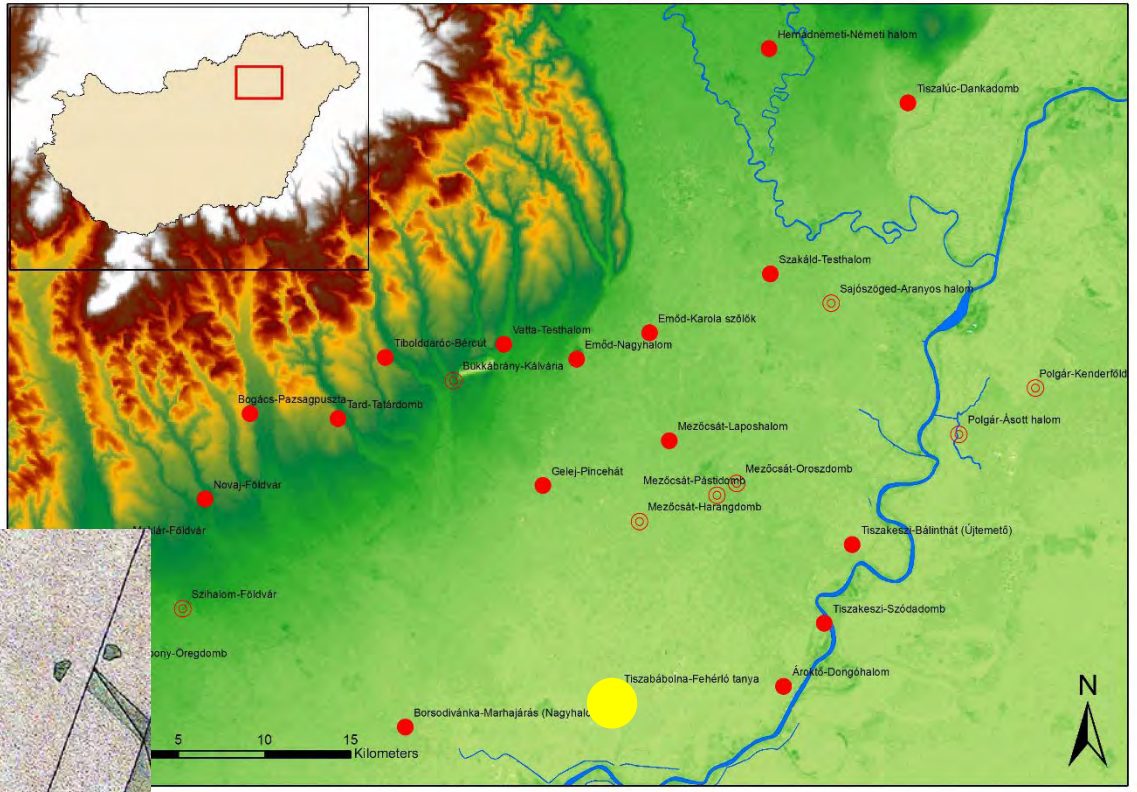
BORBAS 2013

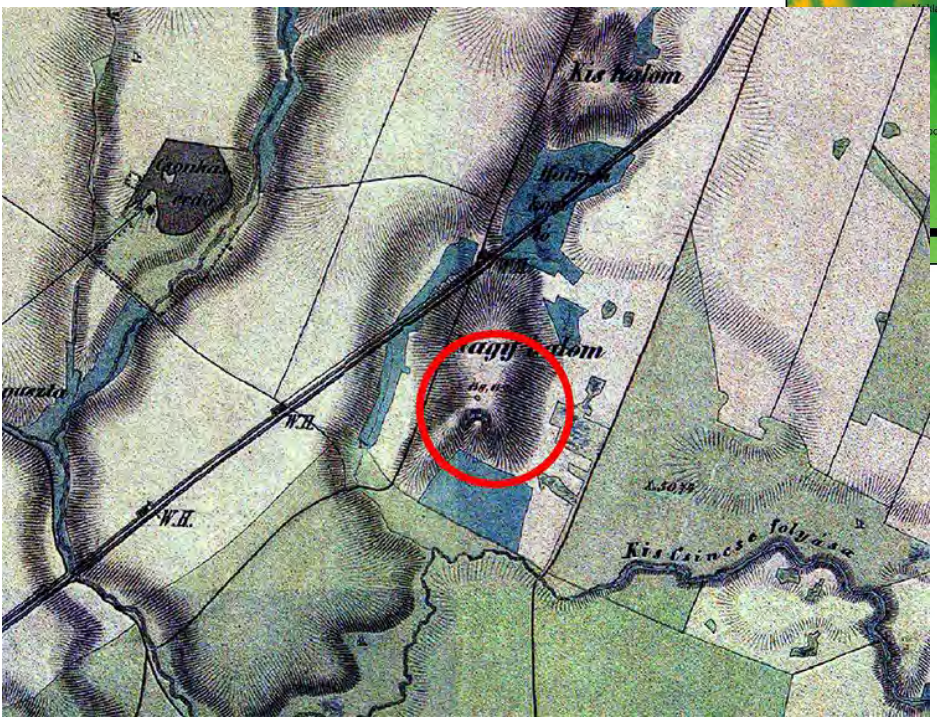


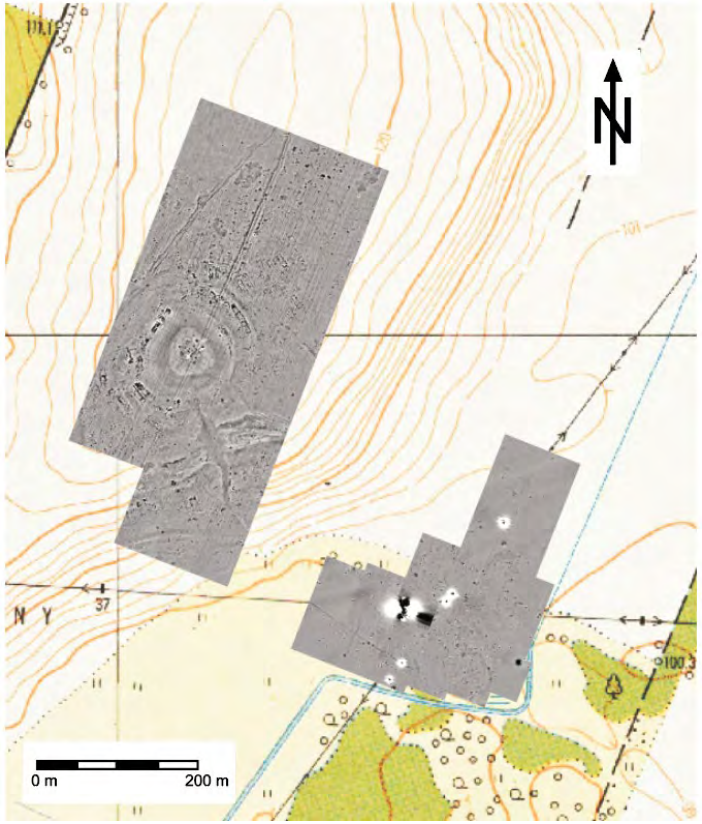


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► Emőd-Nagyhalom





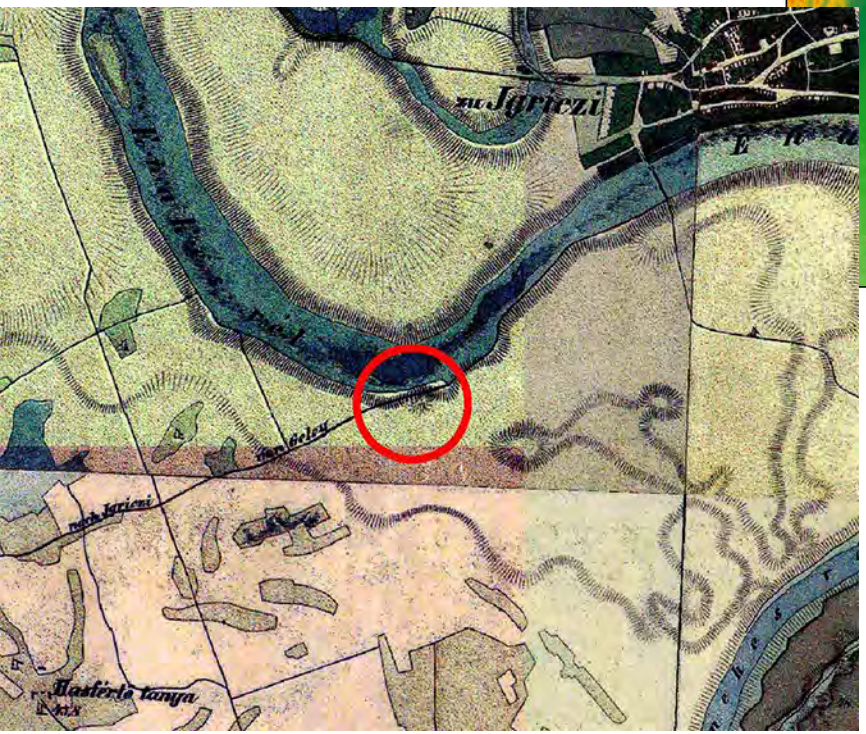


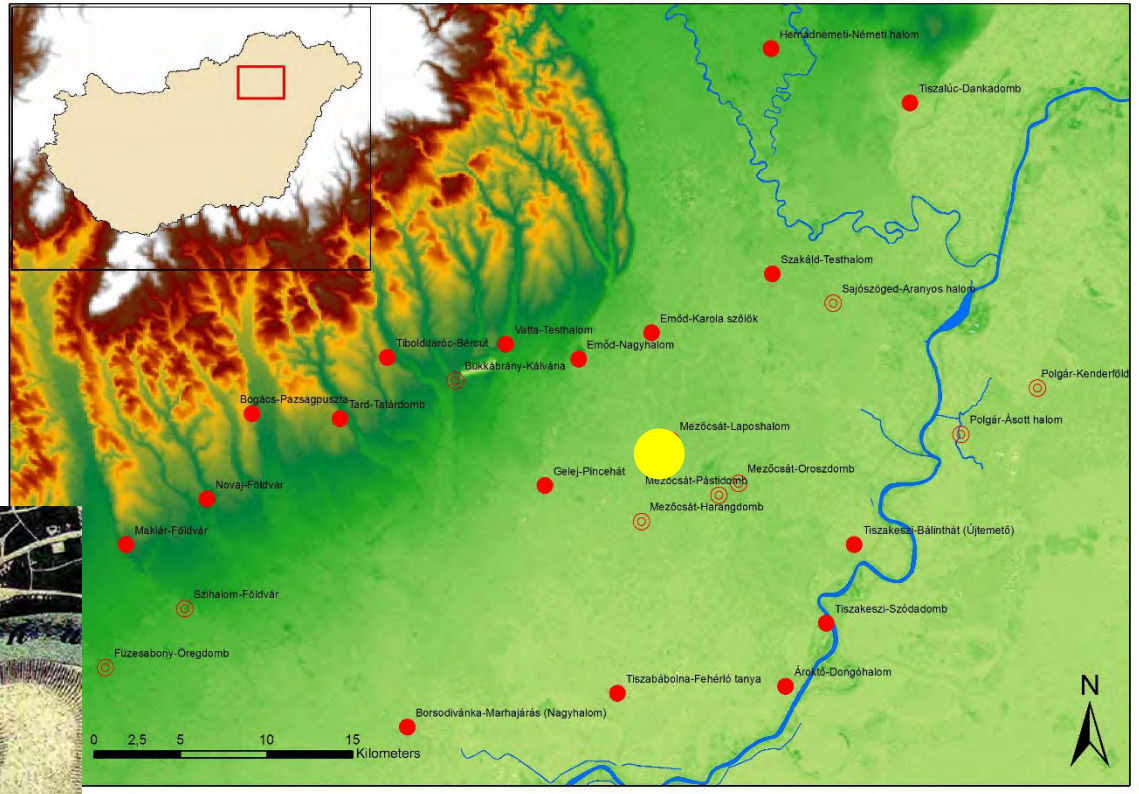




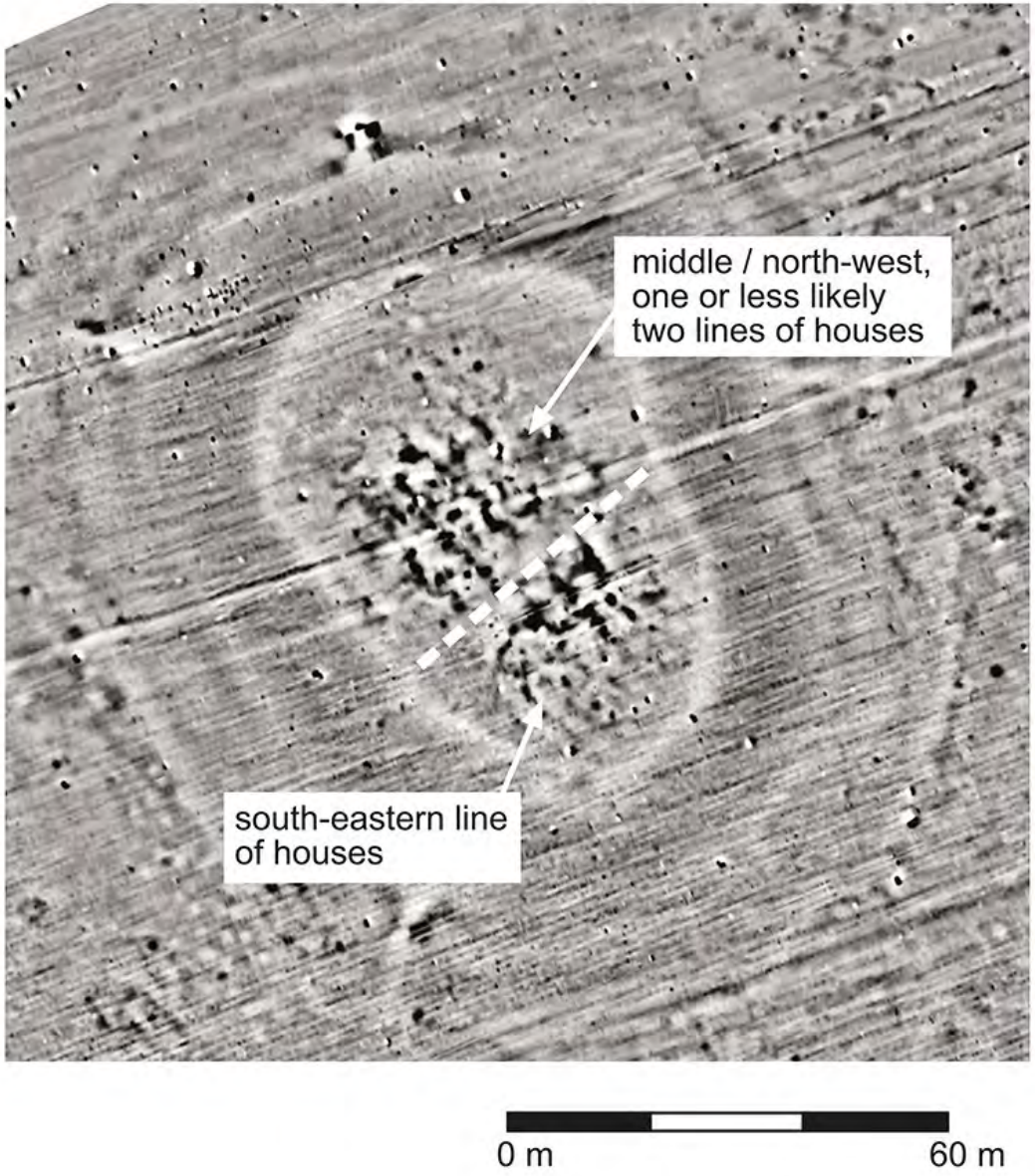
BORBAS 2013

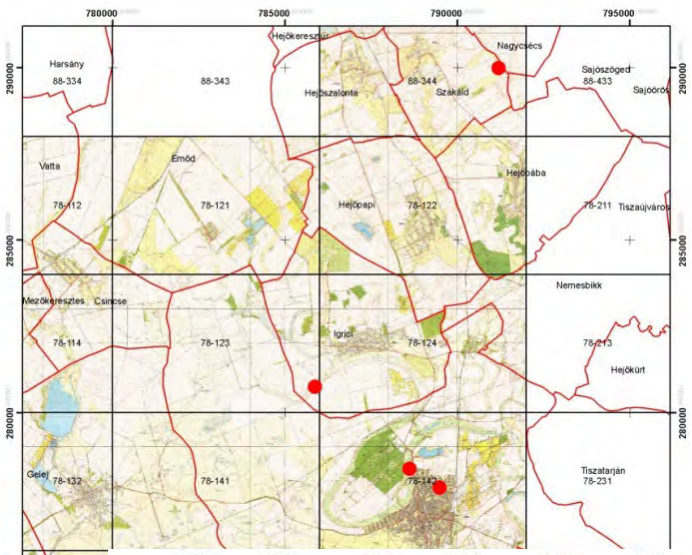
► Mezőcsát-Laposhalom





► Mezőcsát-Laposhalom. Detail of the magnetometer data from the central part of the site illustrating the inferred layout of the settlement with various phases of two rows of houses.




780000
785000
790000
795000
290000
285000
280000
275000
270000
265000
Harsány
88-334
88-343
Hejőkeresztúr
Nagycsécs
Hejőszalonta
88-344
Szakáld
Sajószöged
88-433
Sajóörös
Vatta
Emőd
78-112
78-121
Hejőpapi
78-122
Hejőcsaba
78-211
Tiszaújváros
Mezőkeresztes
Csincse
78-114
78-123
Igrici
78-124
Nemesbikk
78-213
Hejőkürt
Gelej
78-132
78-141
78-142
Tiszatarján
78-231
78-134
78-312Mezők
Szentistv
78-314
Negyes


785100
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méter
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talajmintavételezés fúráspontjai


MET 1
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0-4 m



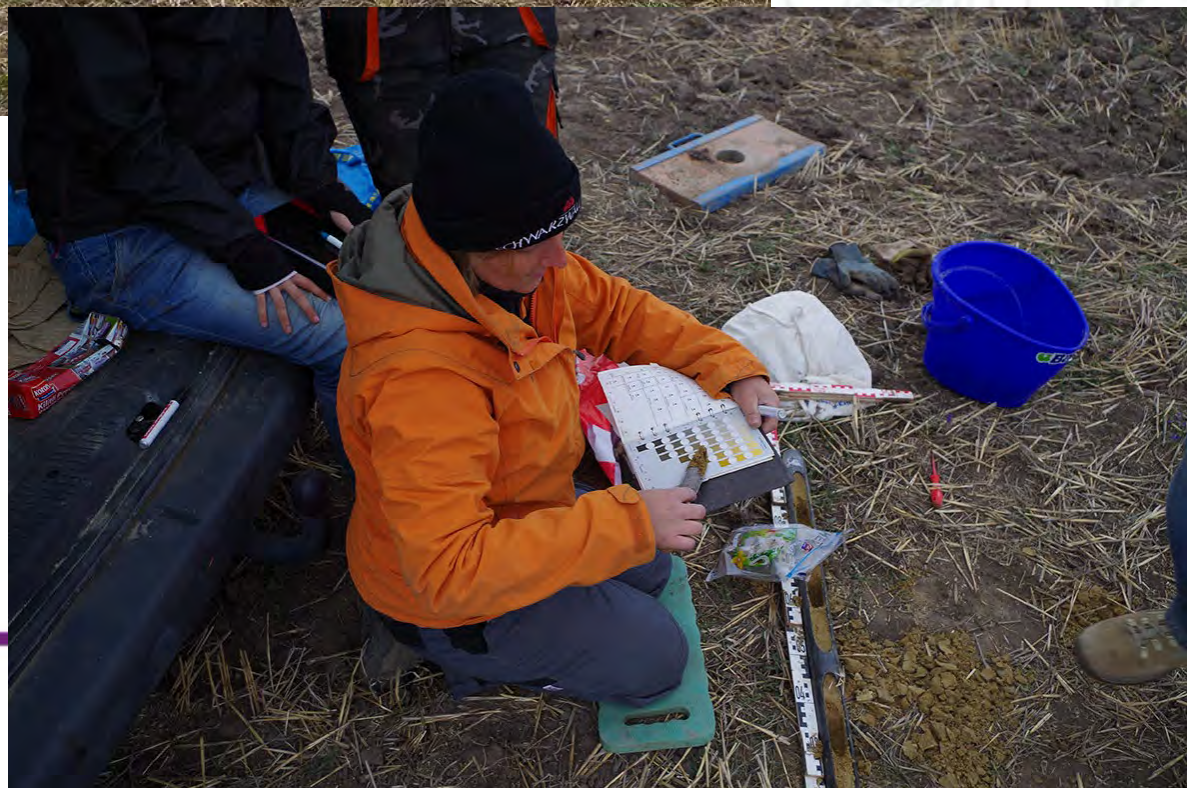
BORBAS 2013





BORBAS 2013





BORBAS 2013

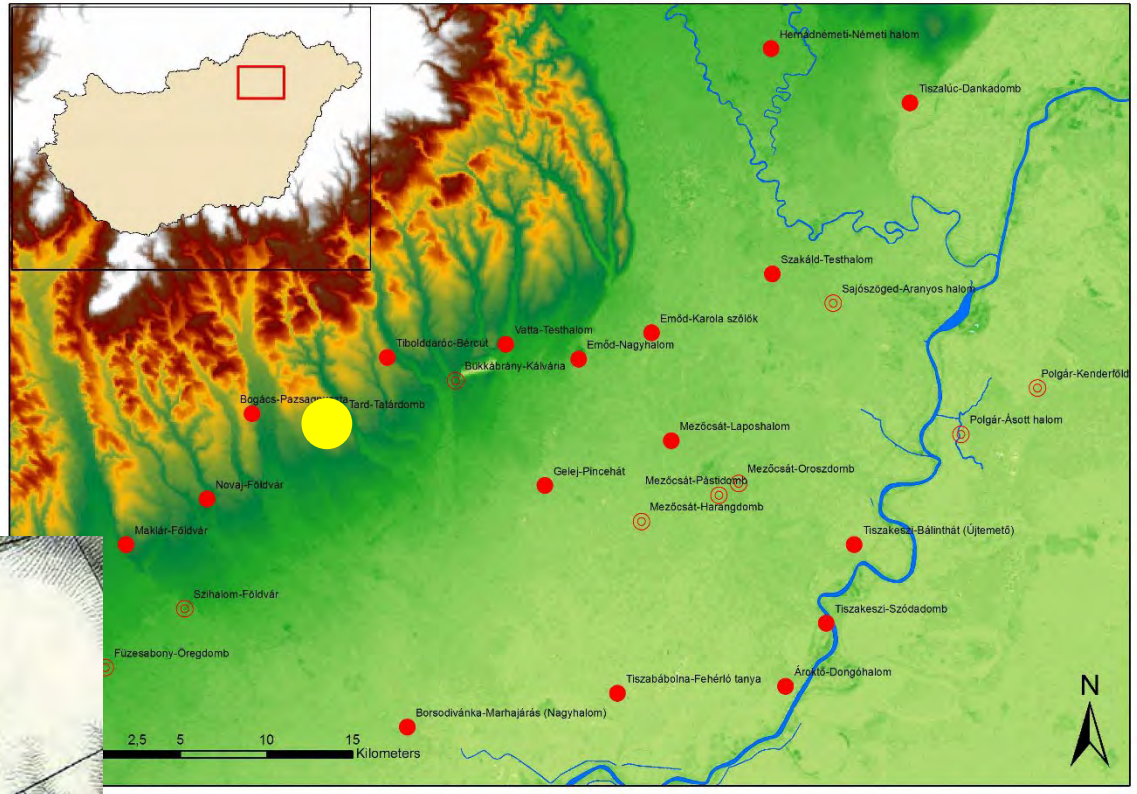


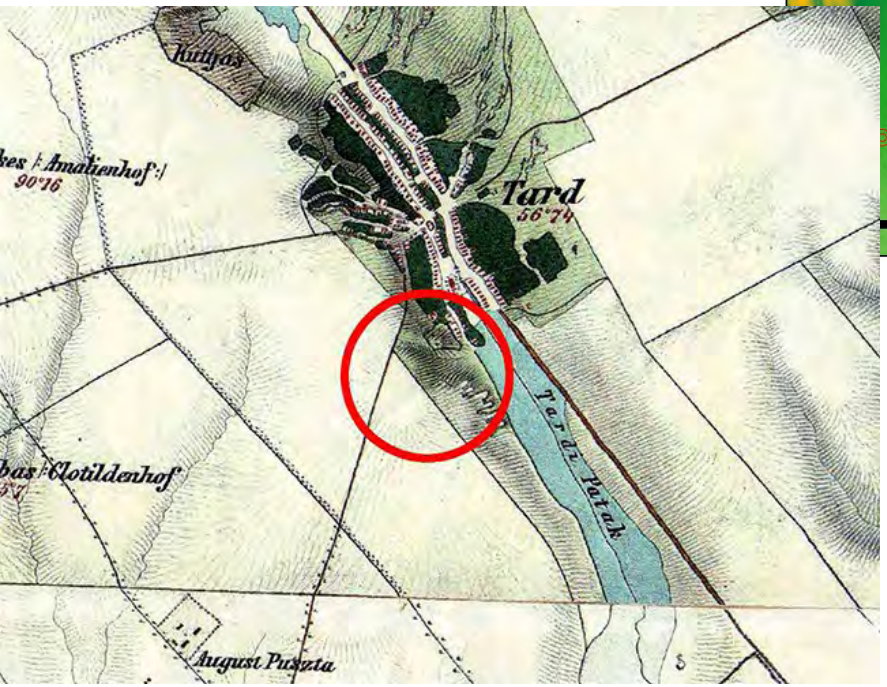
BORBAS 2013



BORBAS 2013

► Tard-Tatárdomb





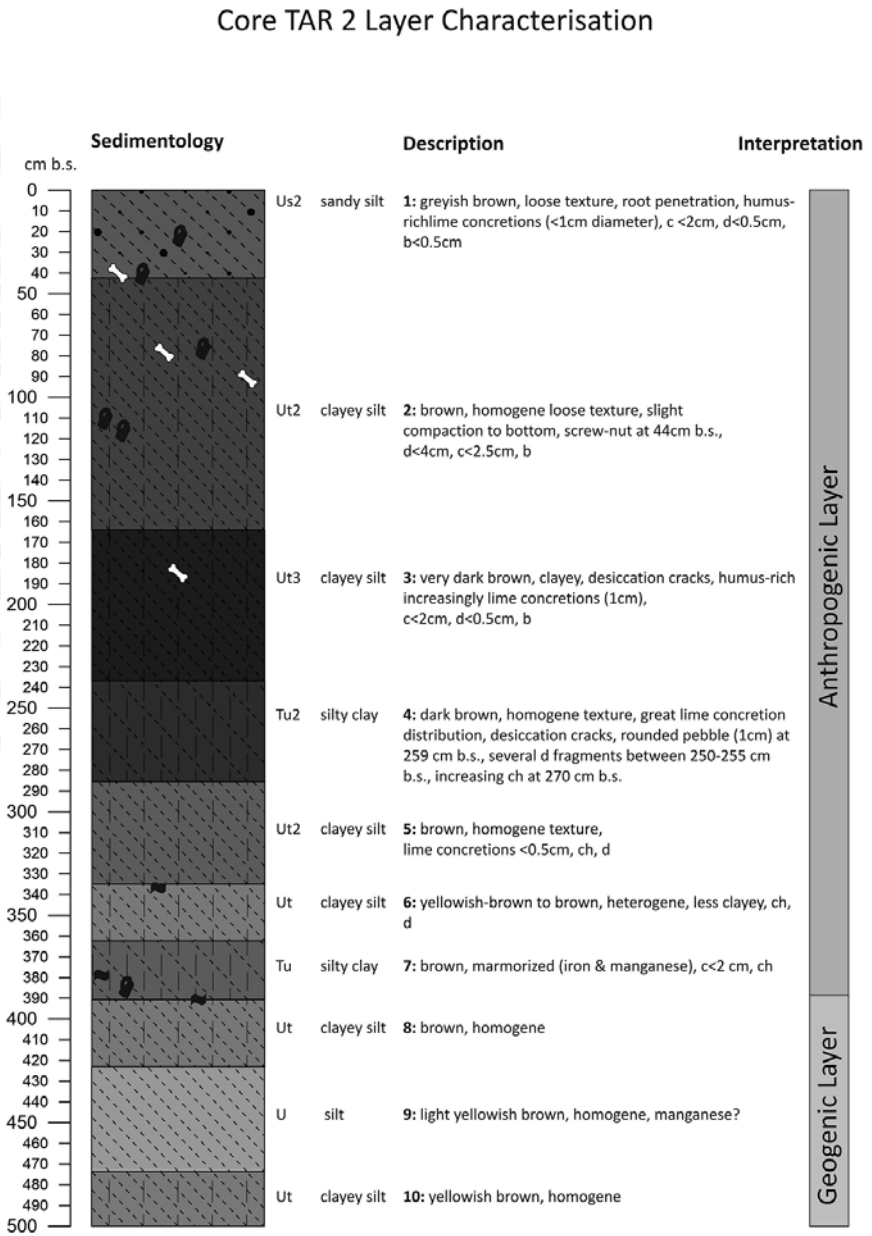


BORBAS 2013



BORBAS 2013

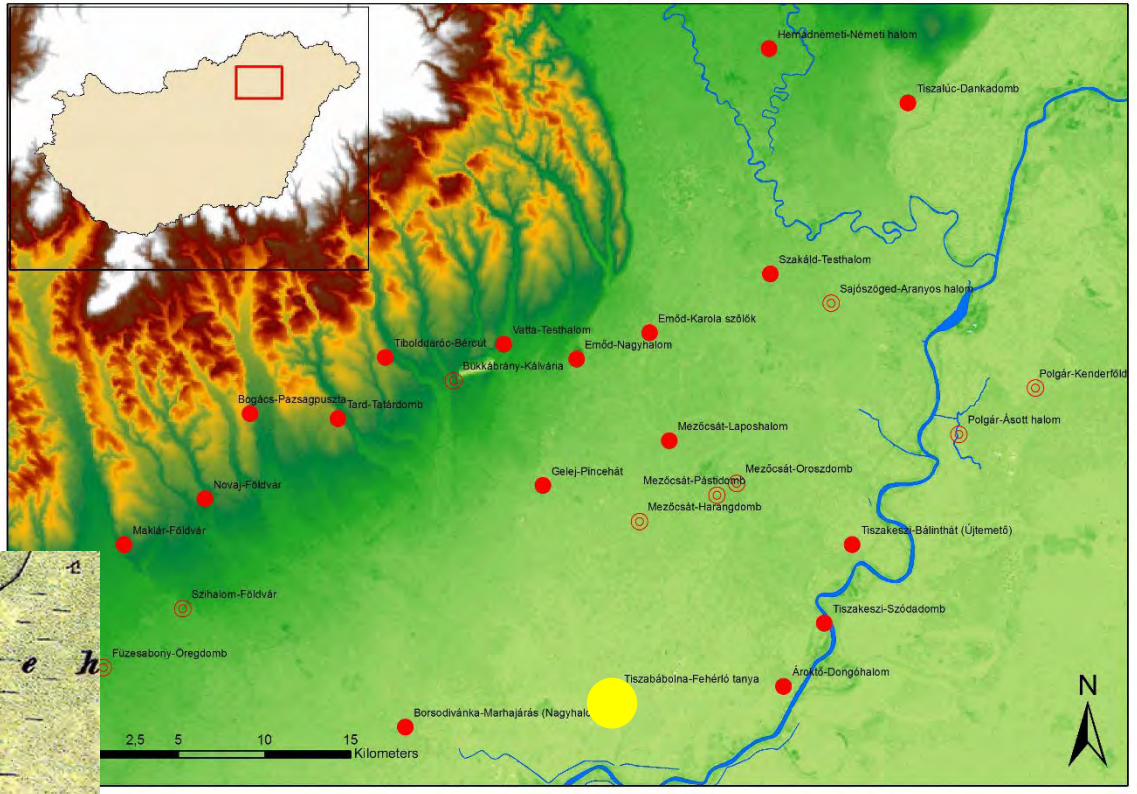


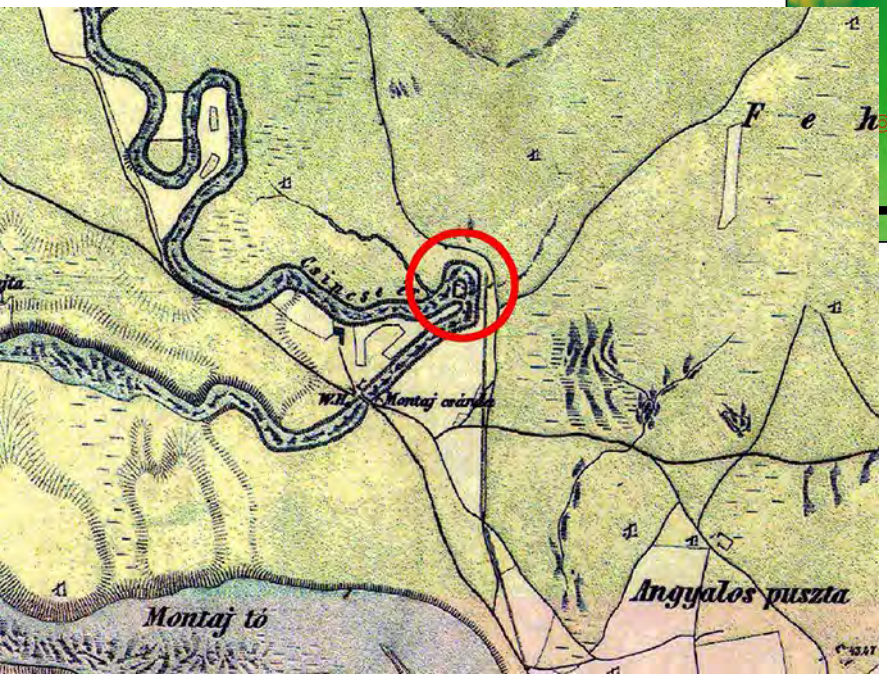


BORBAS 2013

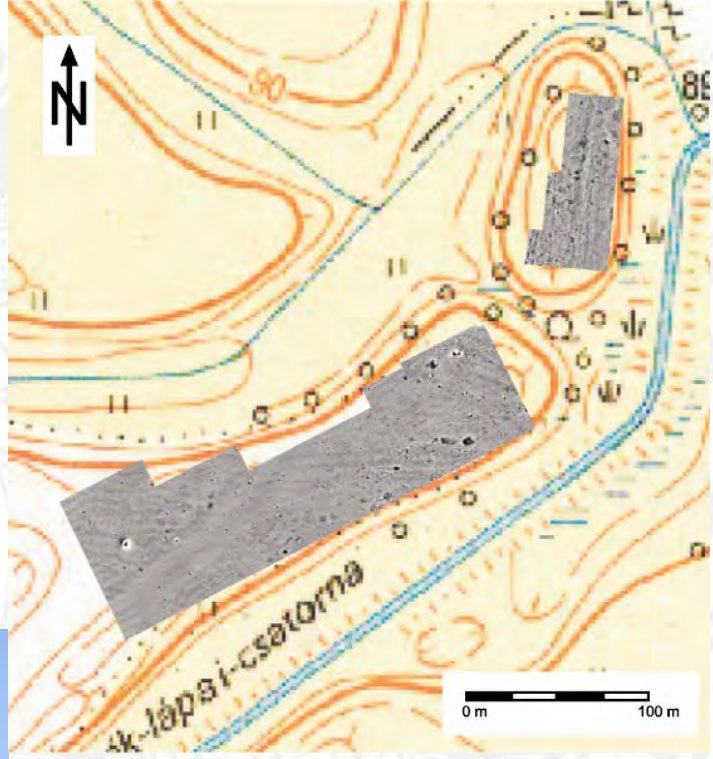
▲ Sedimentology and interpretation of a core from the ditch at Tard-Tatárdomb.

► Tiszabábolna-Fehérló tanya








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90
0 m
100 m

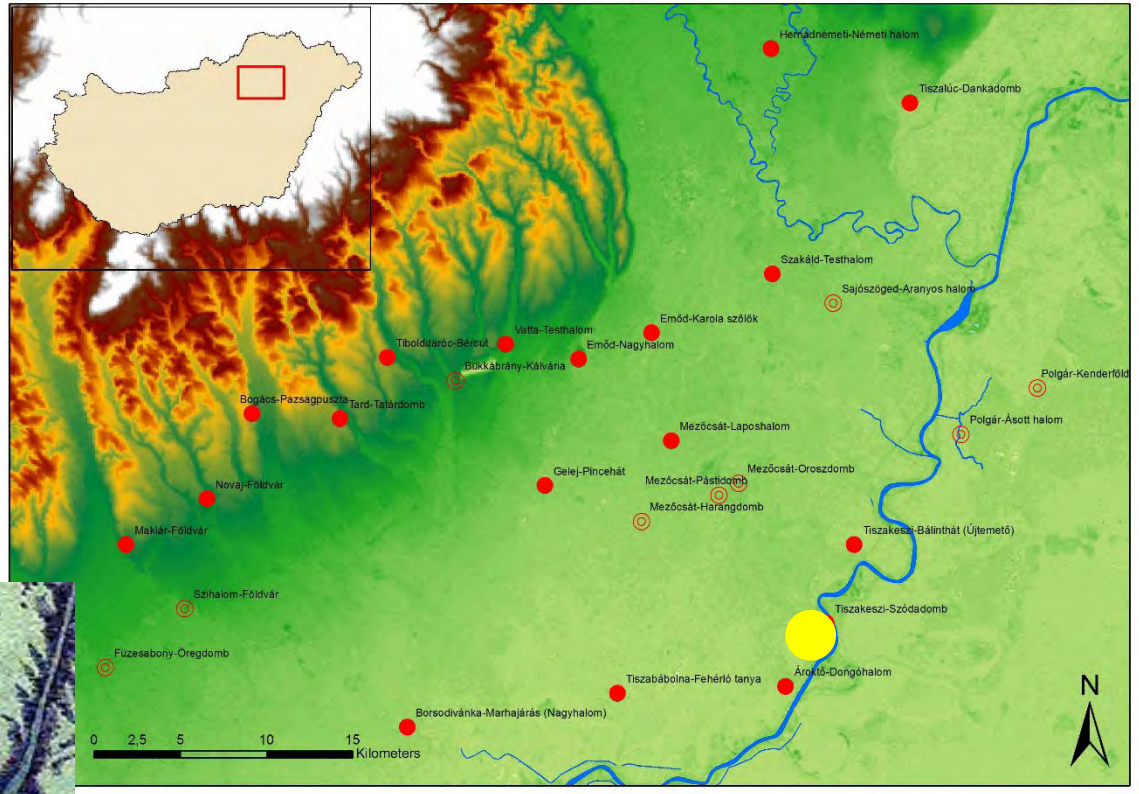




BORBAS 2013

► Tiszakeszi-Szódadomb







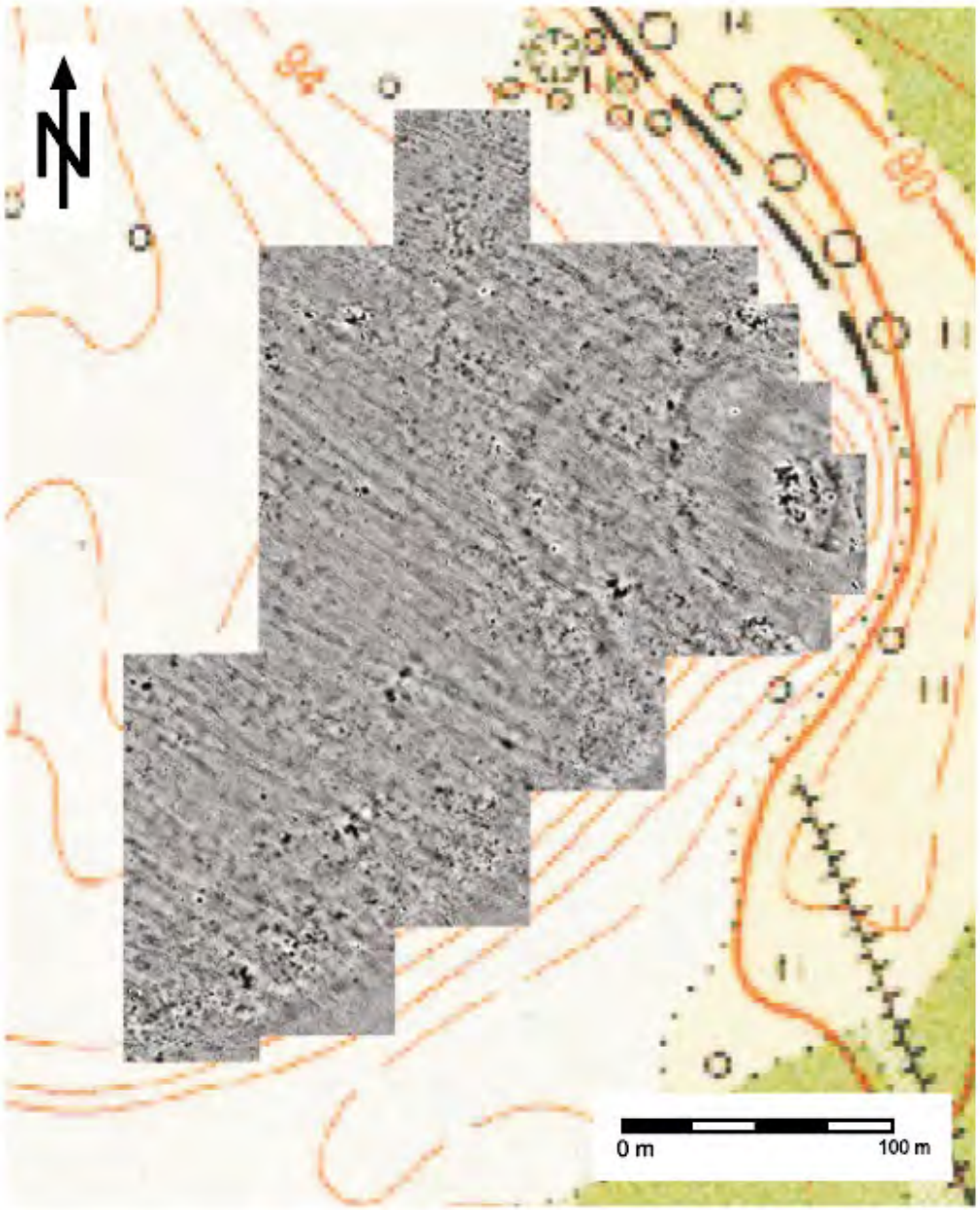
BORBAS 2013



BORBAS 2013



BORBAS 2013



► Tiszakeszi-Szódadomb. Results of magnetometry.

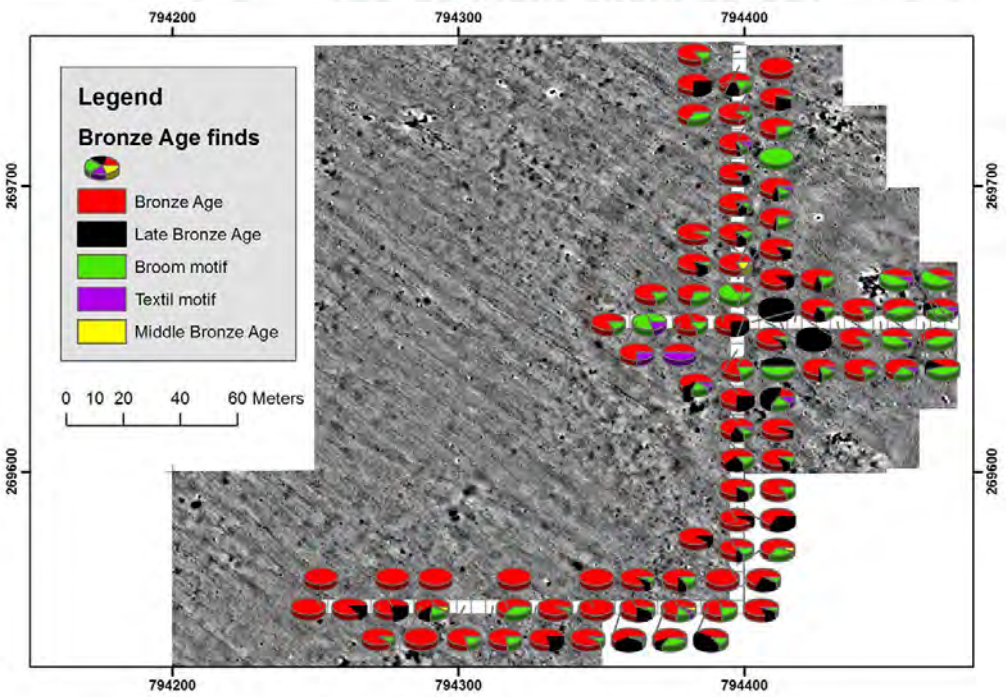


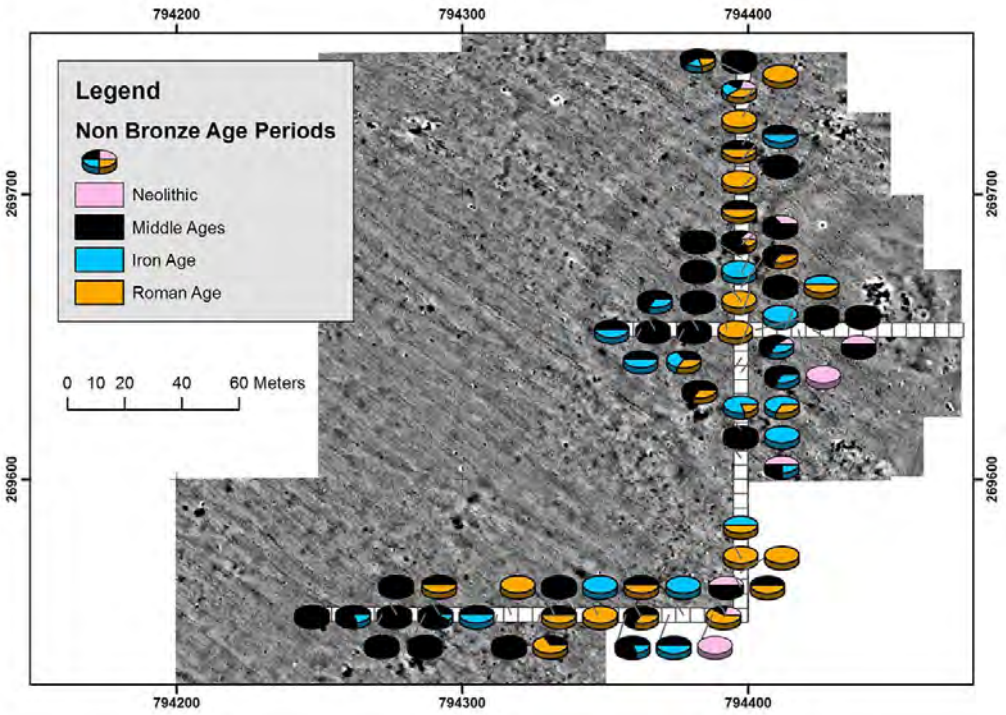
BORBAS 2013







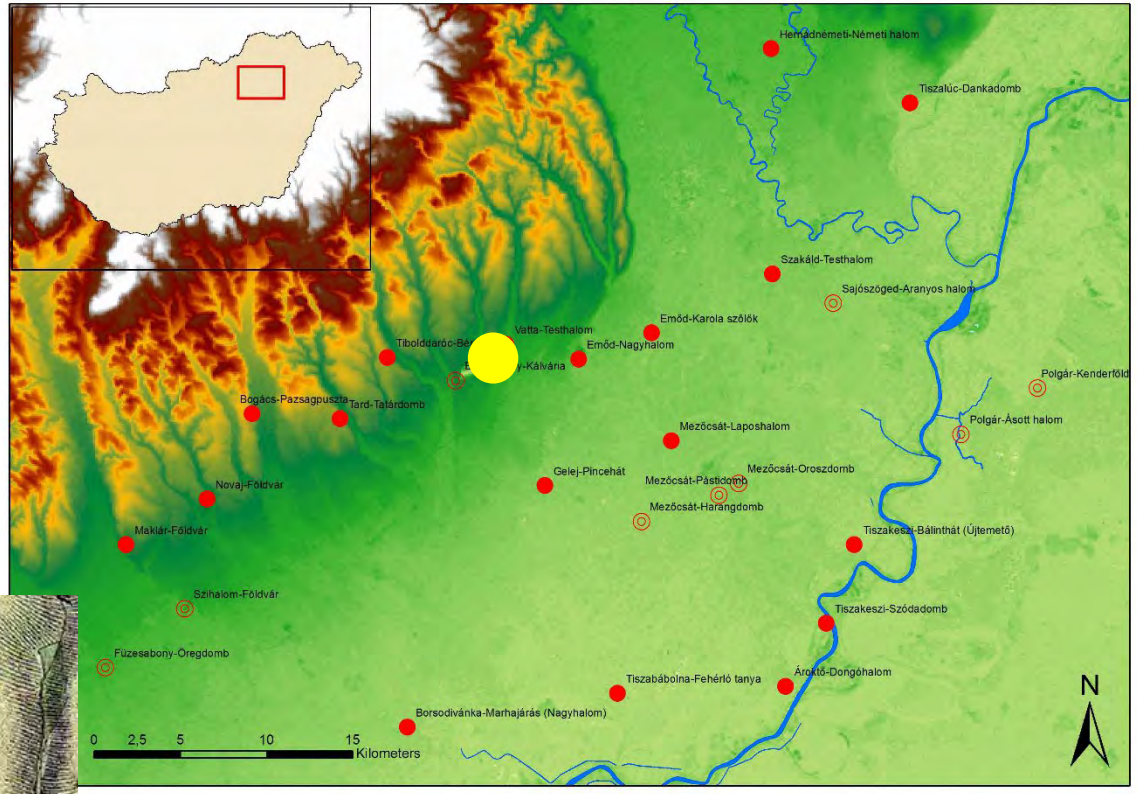


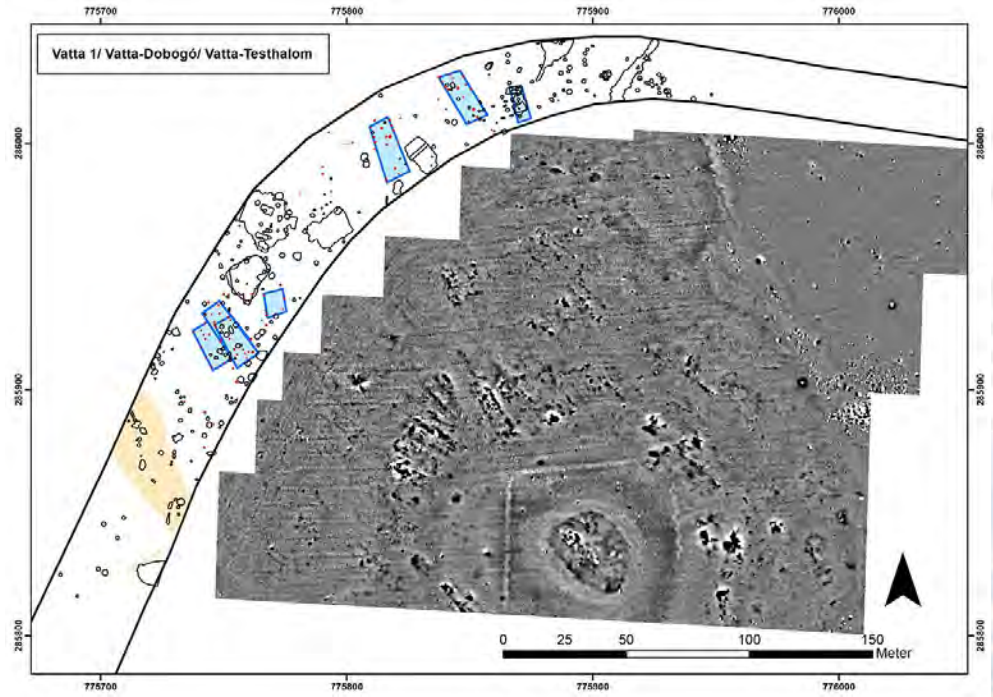


► Tiszakeszi-Szódadomb. Results of the surface survey in 2013.

► Vatta-Testhalom







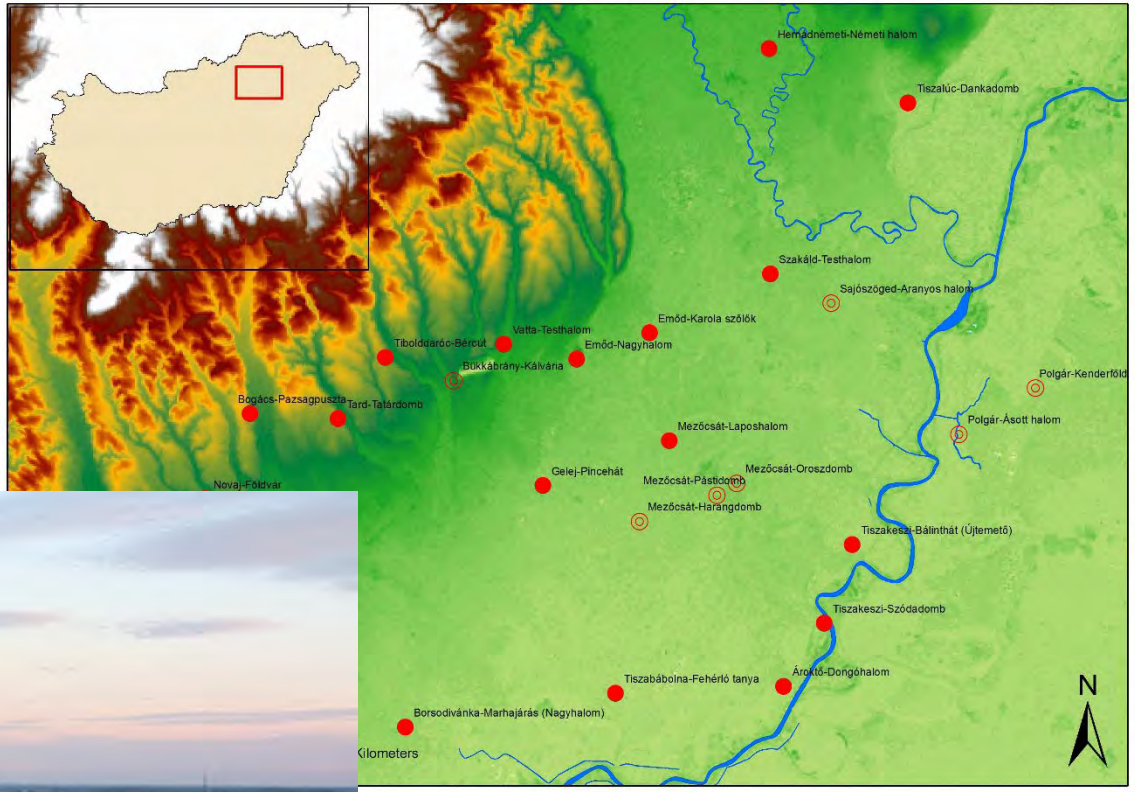
◄ Vatta-Testhalom. Layout of the outer settlement; magnetometry and the results of a previous rescue excavation compared.





BORBAS 2013

► Social Life on BORBAS Tells







◄ Accomodation in the sports home at Tard.





BORBAS 2013



BORBAS 2013



BORBAS 2013

▲ Sunset at Tard-Tatárdomb.



BORBAS 2013

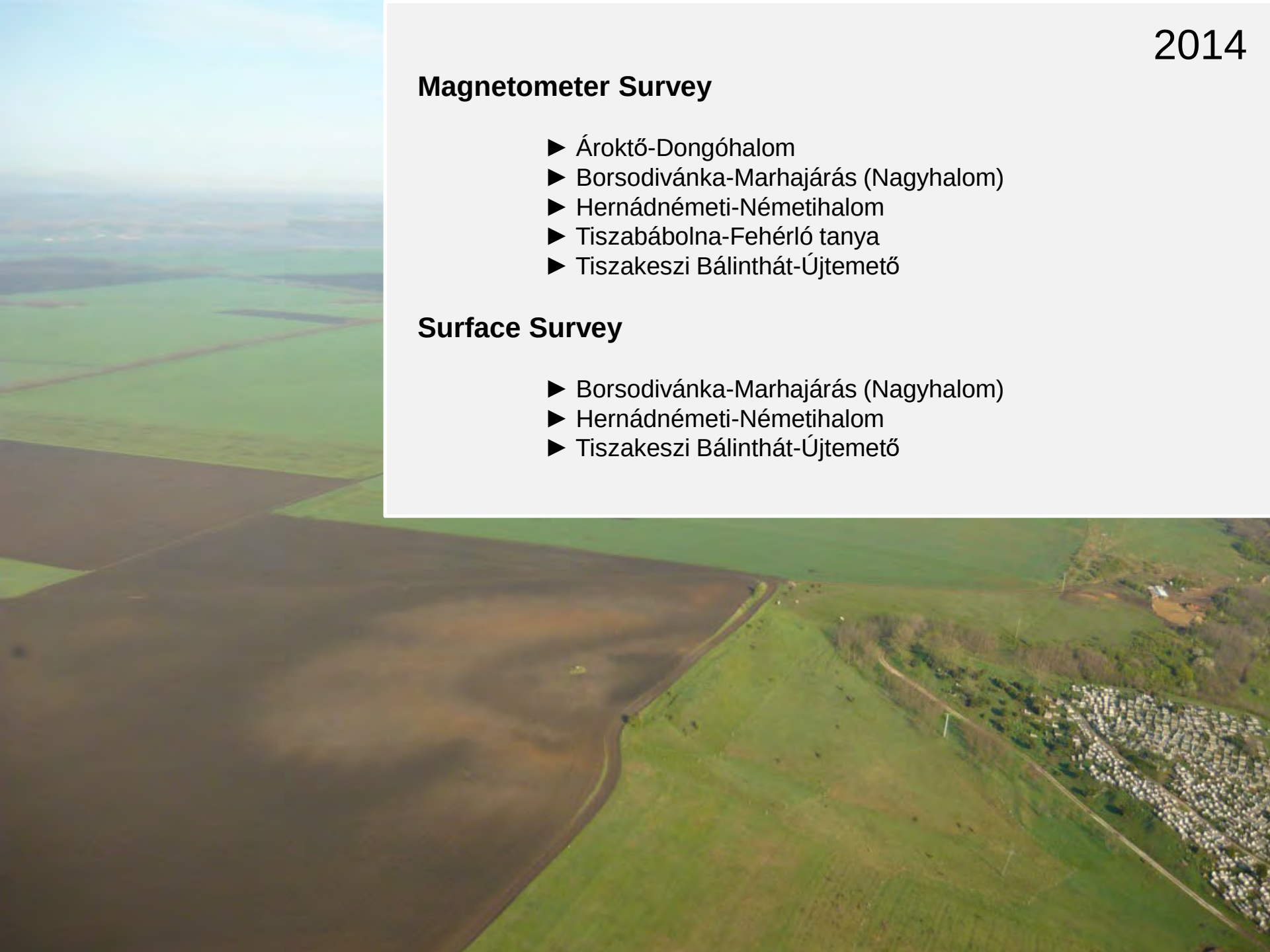
2014

Magnetometer Survey

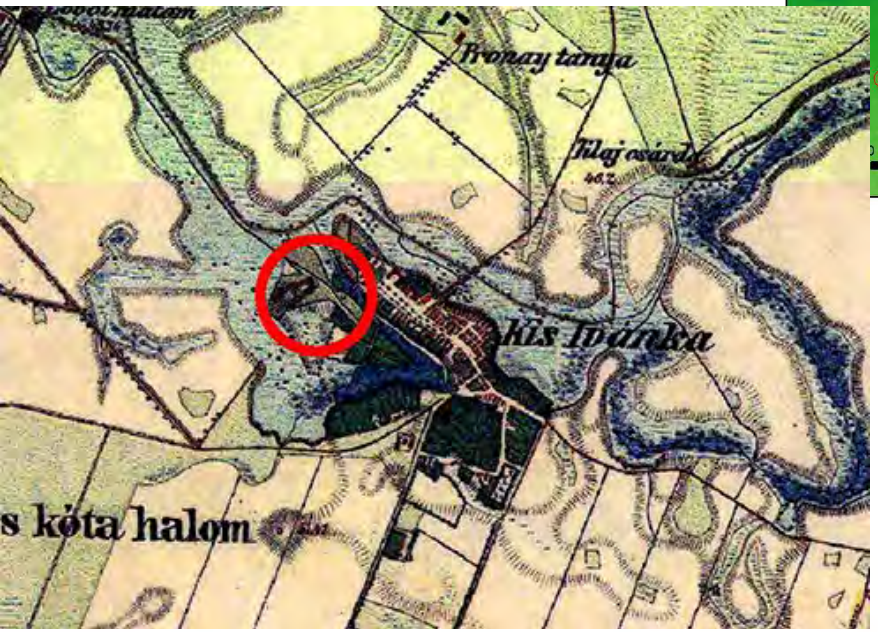
- Ároktő-Dongóhalom
- Borsodivánka-Marhajárás (Nagyhalom)
- Hernádnémeti-Németihalom
- Tiszabábolna-Fehérló tanya
- Tiszakeszi Bálinthát-Újtemető

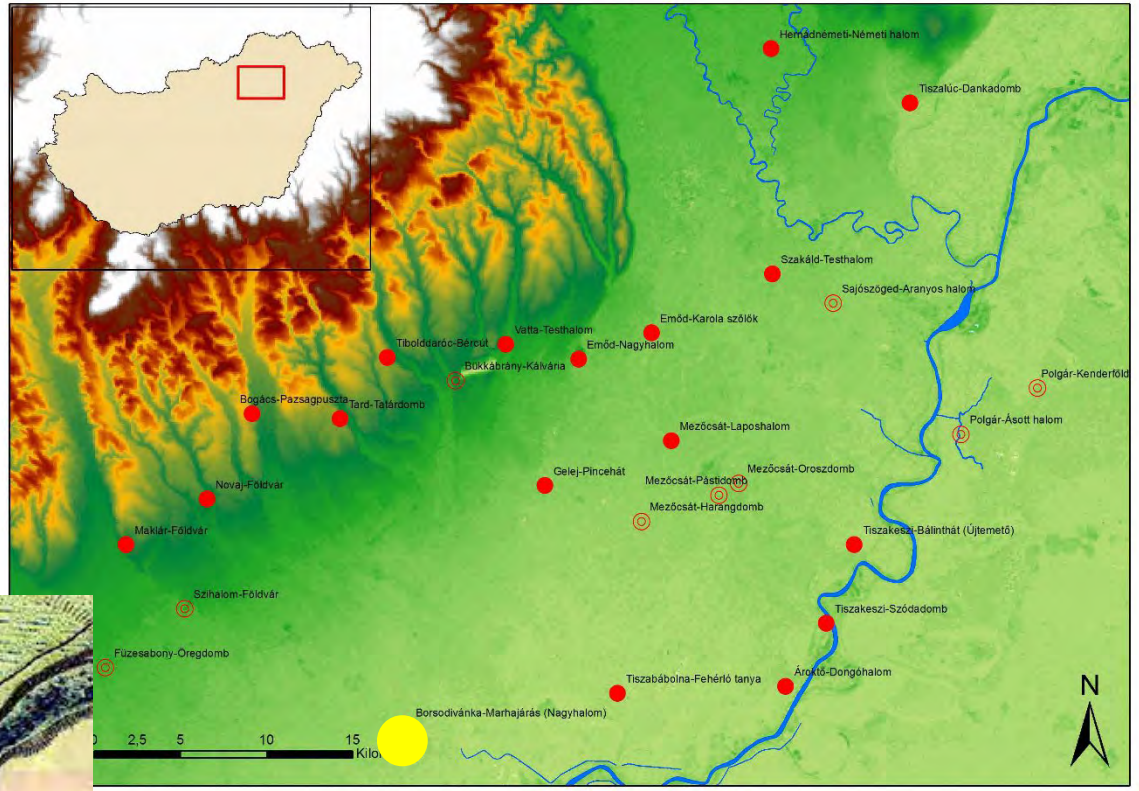
Surface Survey

- Borsodivánka-Marhajárás (Nagyhalom)
- Hernádnémeti-Németihalom
- Tiszakeszi Bálinthát-Újtemető



► Borsodivánka-Marhajárás (Nagyhalom)















BORBAS 2014





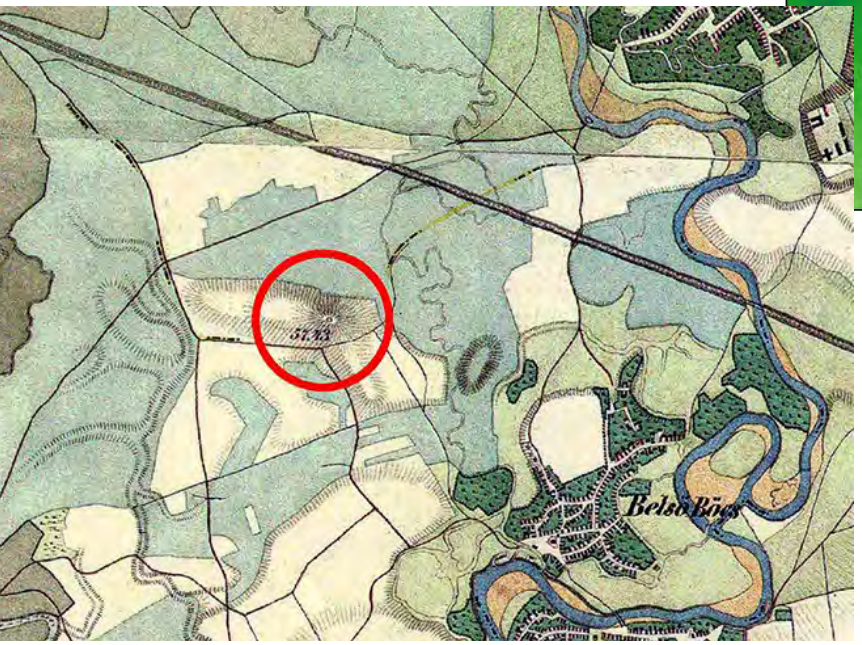
BORBAS 2014

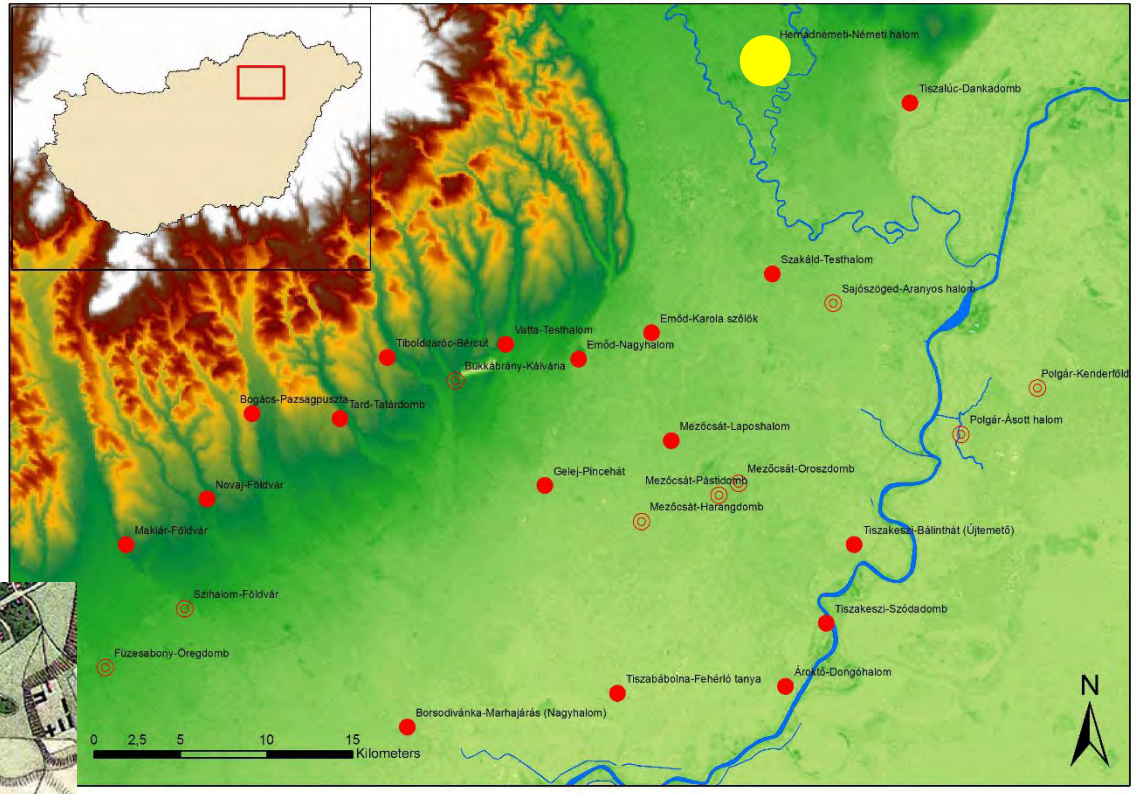




BORBAS 2014

► Hernádnémeti-Németihalom





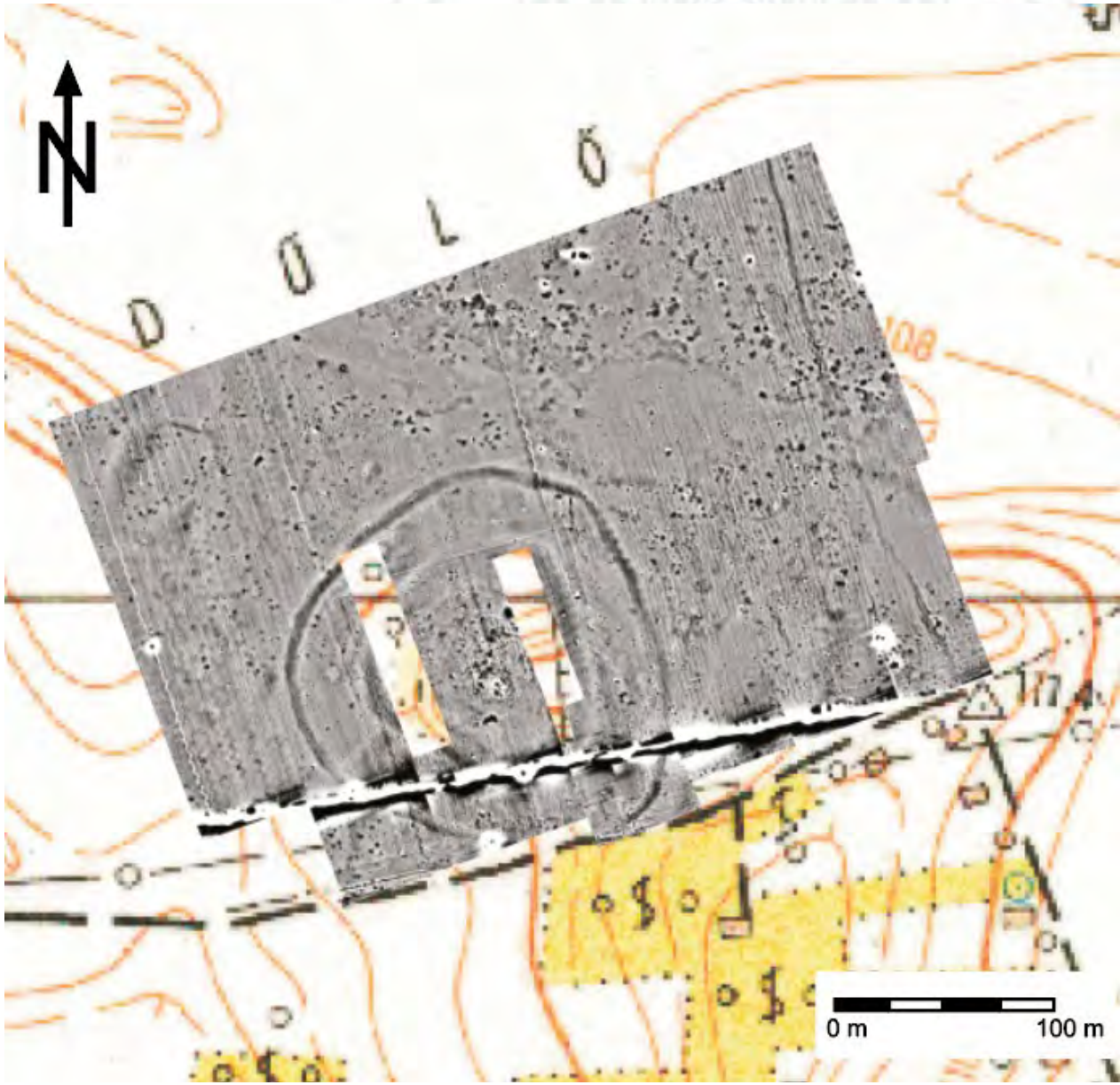
BORBAS 2014



BORBAS 2014



BORBAS 2014

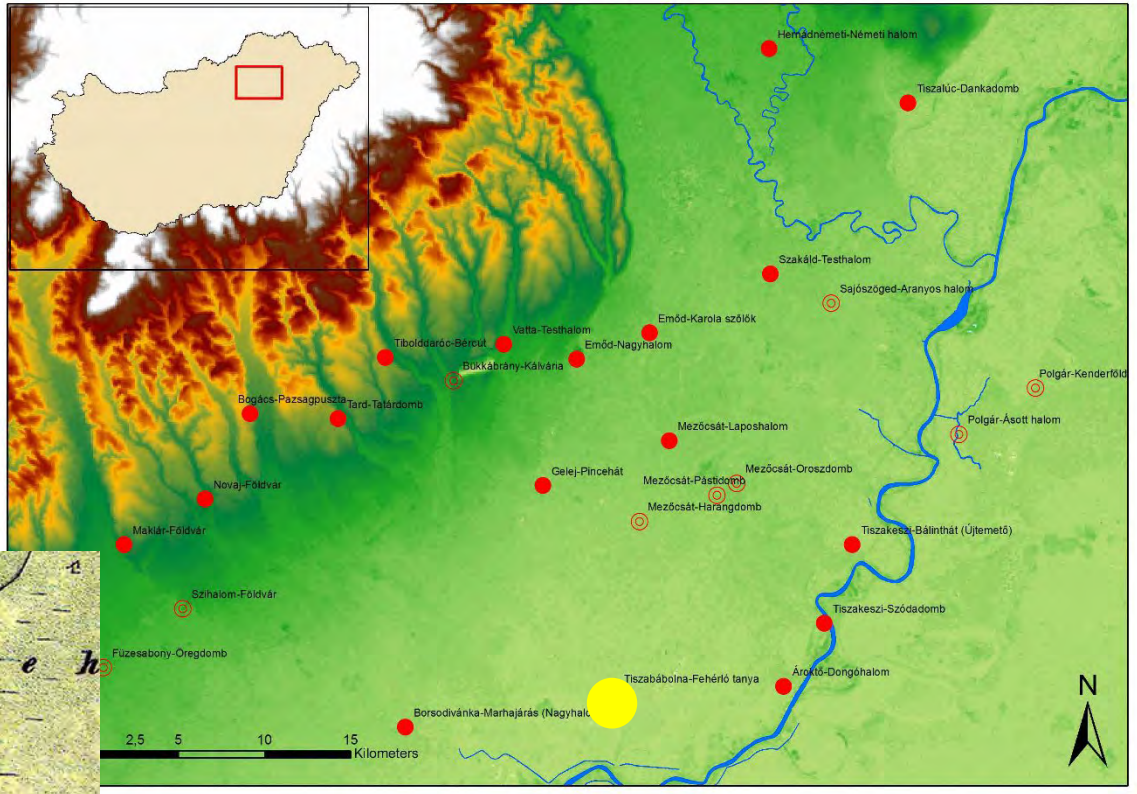


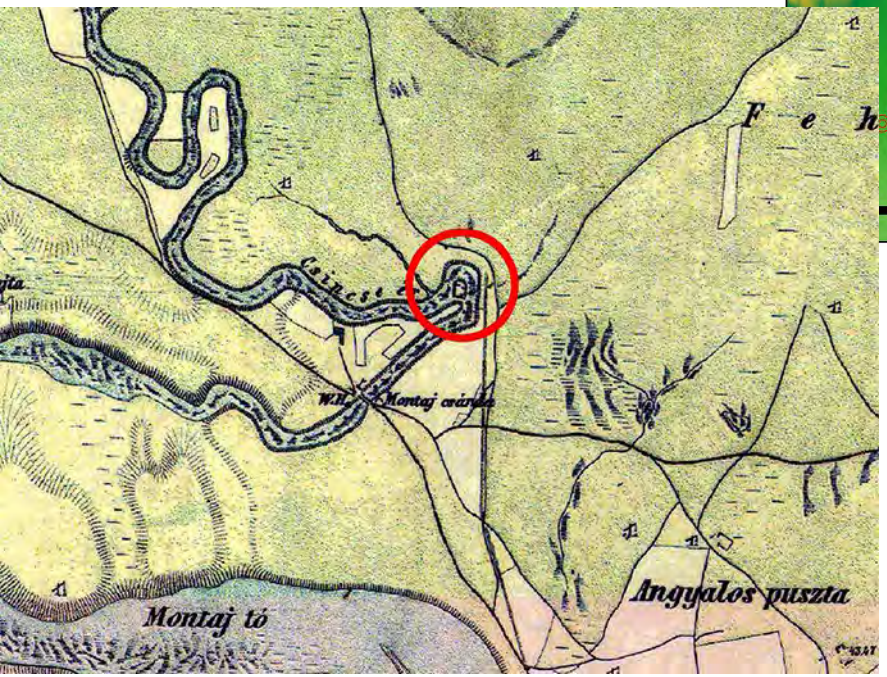
► Hernádnémeti-Németihalom. Results of magnetometry.



BORBAS 2014

► Tiszabábolna-Fehérló tanya





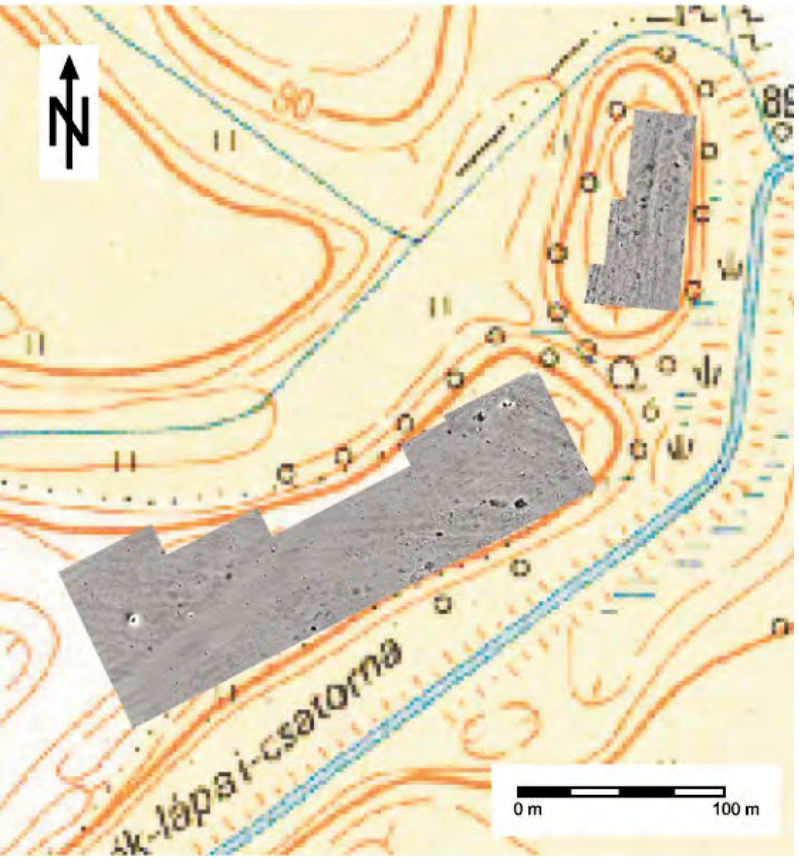


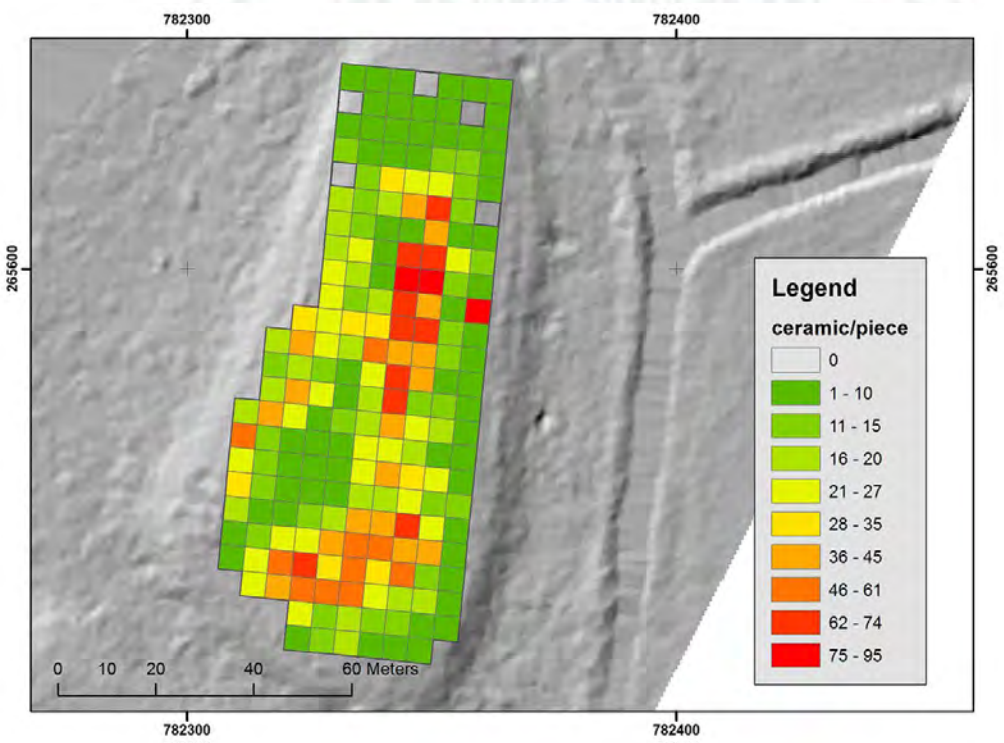


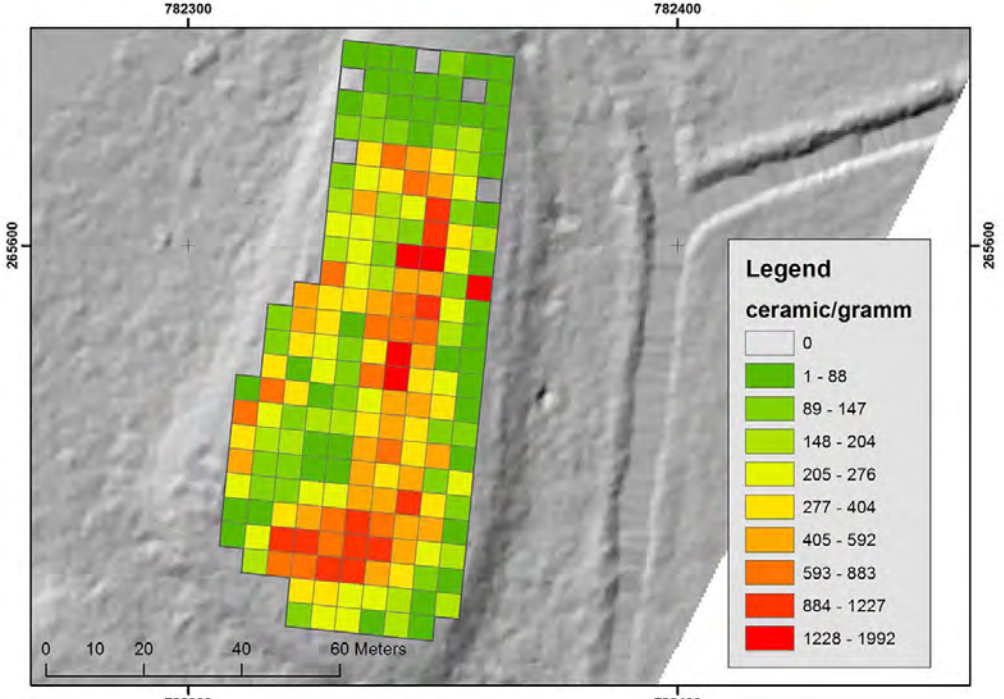




BORBAS 2014



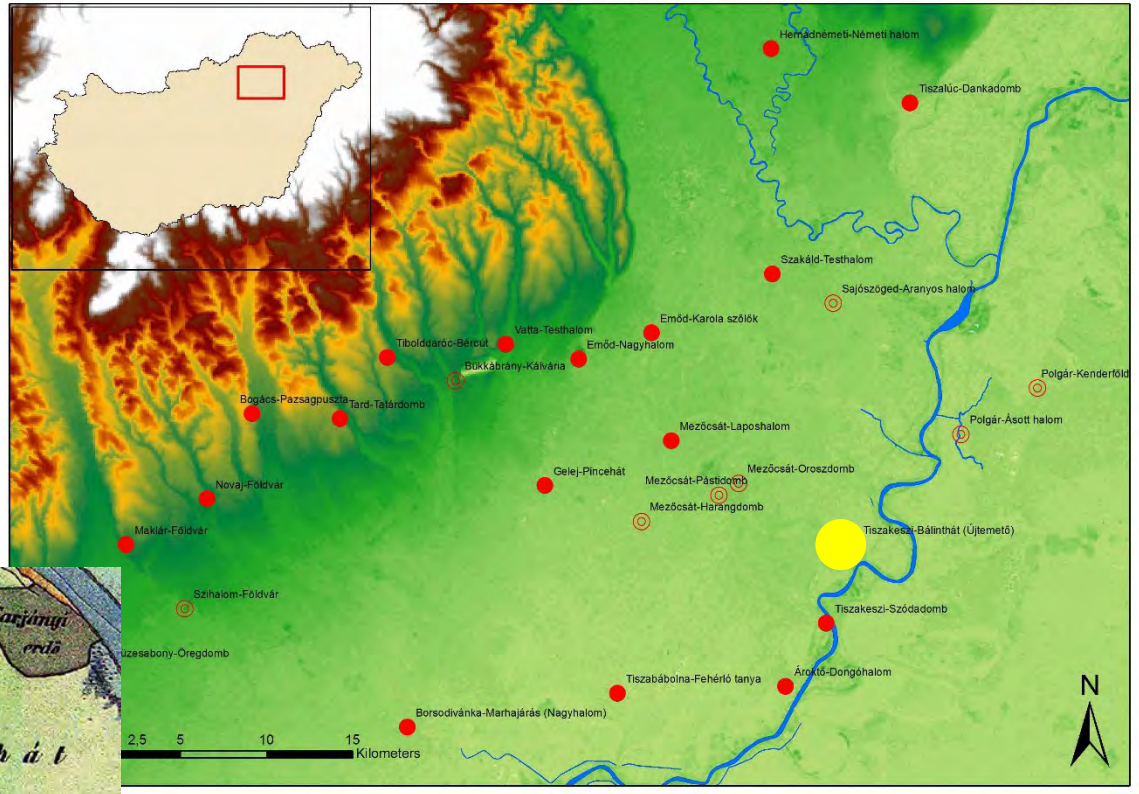


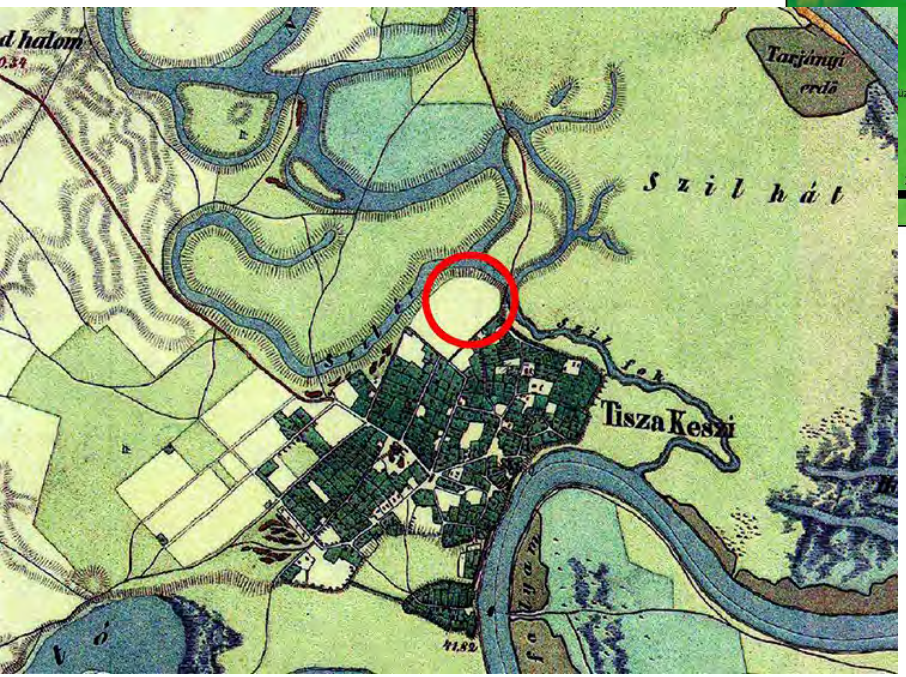


▲► Tiszabábolna-Fehérló tanya. Results of magnetometry and the surface survey in 2014.

BORBAS 2014

► Tiszakeszi Bálinthát-Újtemető



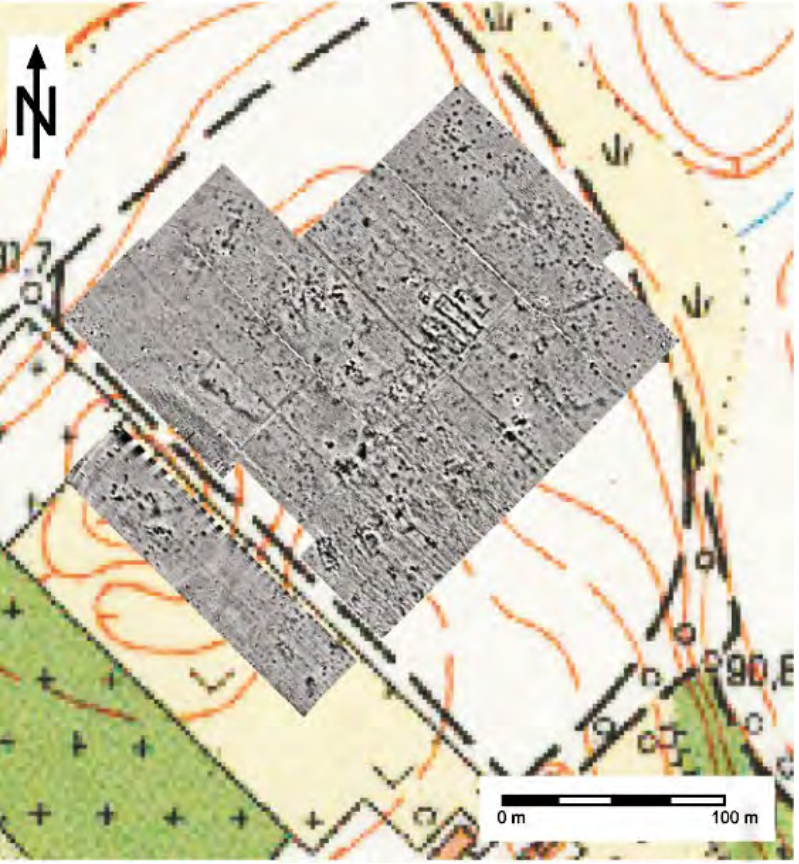


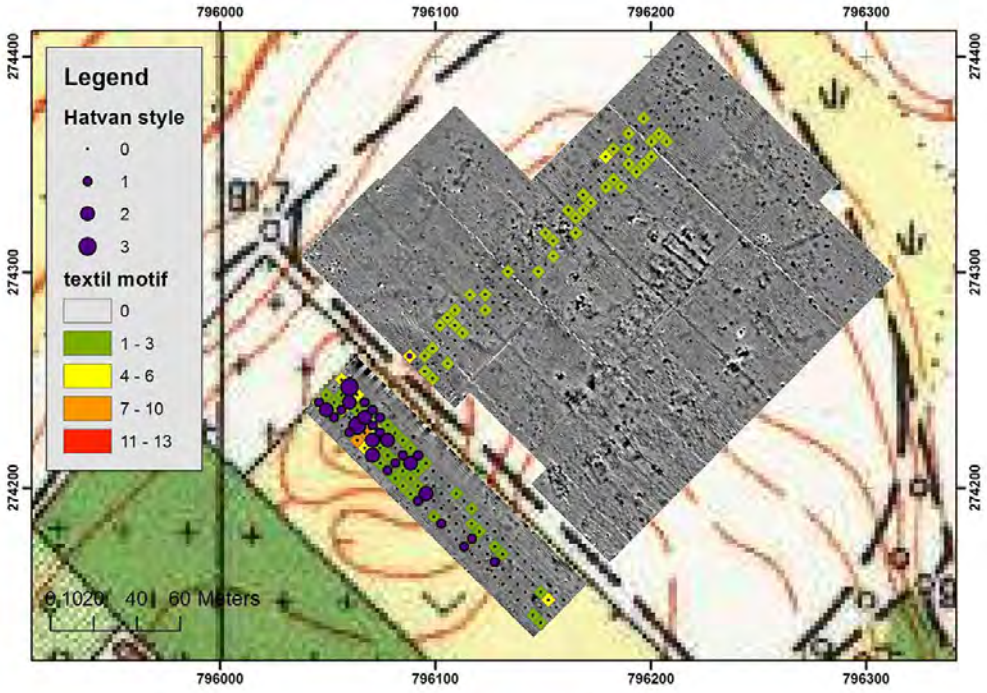


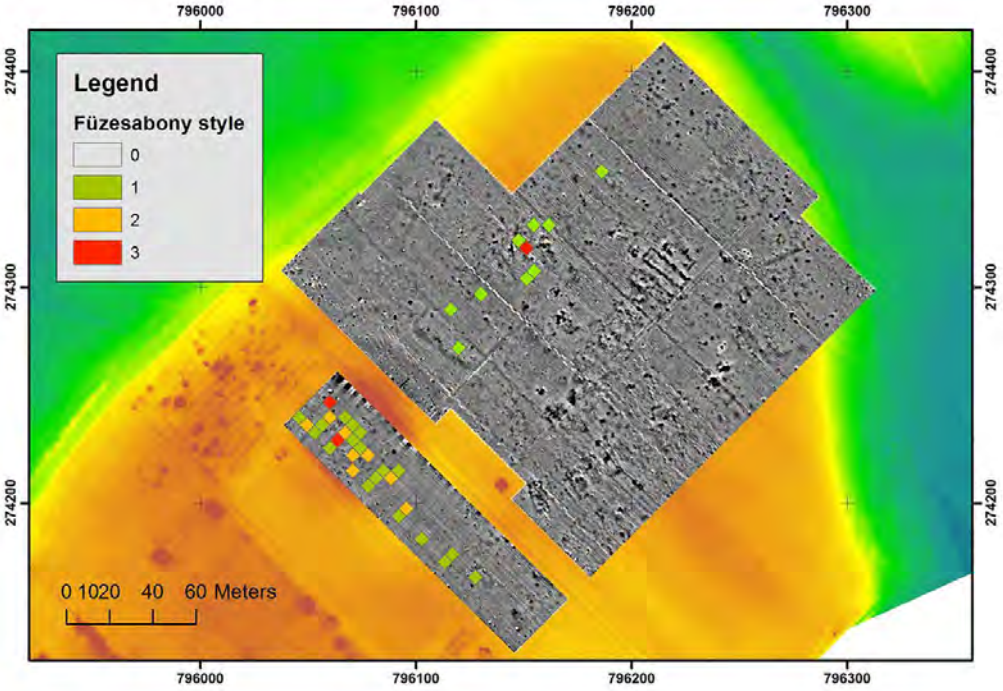
BORBAS 2014











▲► Tiszakeszi Bálinthát-Újtemető. Results of magnetometry and the surface survey in 2014.

BORBAS 2014





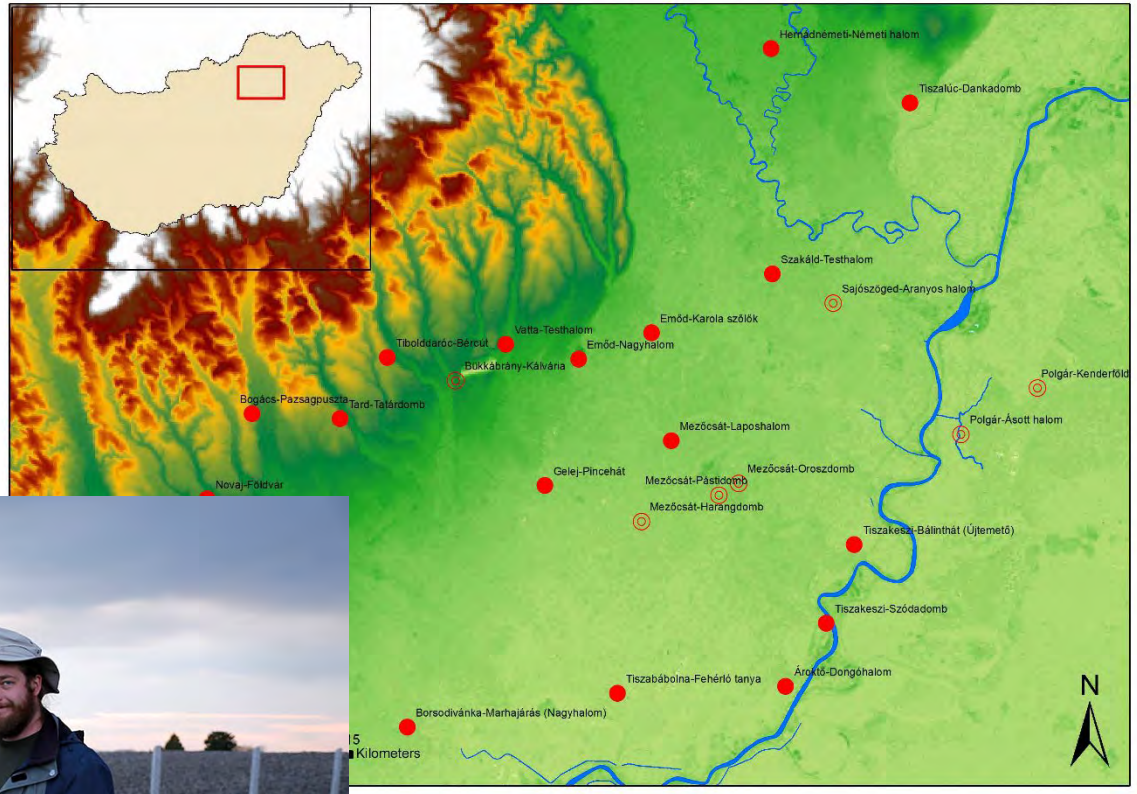
BORBAS 2014



BORBAS 2014

► Social Life on BORBAS Tells





BORBAS 2014





BORBAS 2014





BORBAS 2014



► A visit to Bogács-Pazsagpuszta.



BORBAS 2014

▲ Accomodation in Borsodivánka I.





► Accomodation in Borsodivánka II.



BORBAS 2014

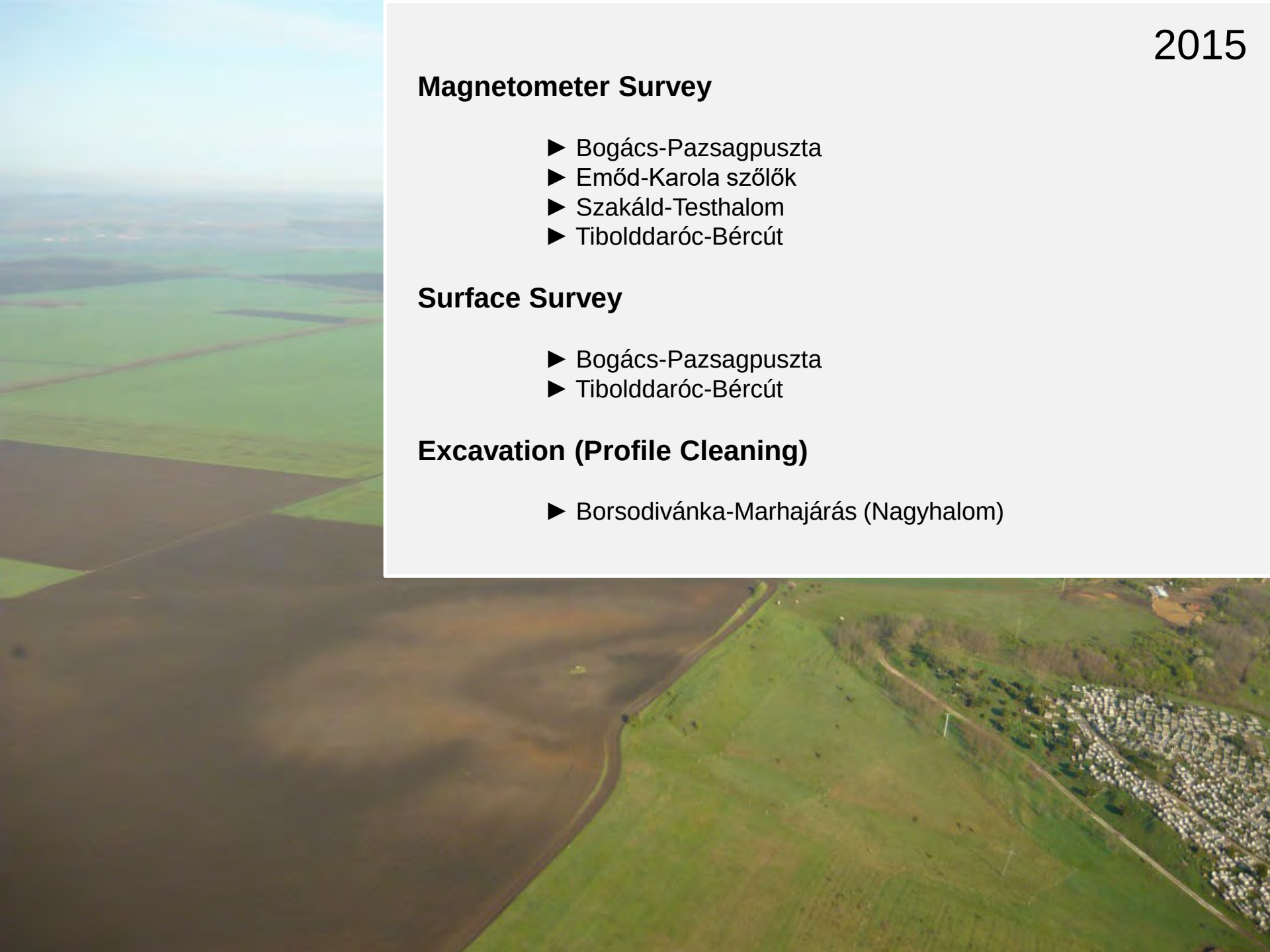




BORBAS 2014



BORBAS 2014



2015

Magnetometer Survey

- Bogács-Pazsagpuszta
- Emőd-Karola szőlők
- Szakáld-Testhalom
- Tibolddaróc-Bércút

Surface Survey

- Bogács-Pazsagpuszta
- Tibolddaróc-Bércút

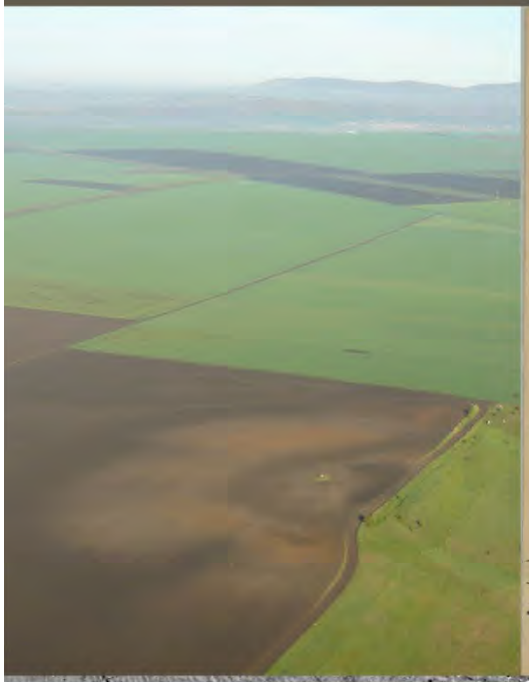
Excavation (Profile Cleaning)

- Borsodivánka-Marhajárás (Nagyhalom)

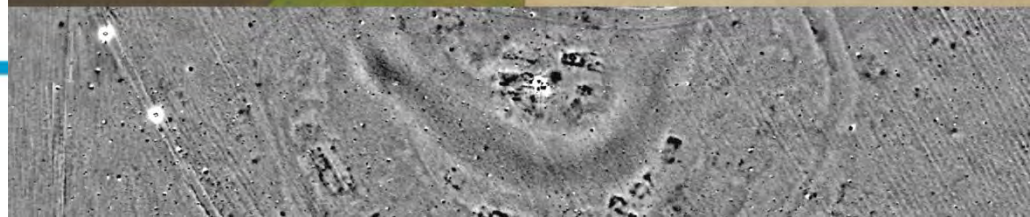
Bronze Age Tell Communities in Context

An exploration into culture, society, and the study of European prehistory – Part 1

Tobias L. Kienlin

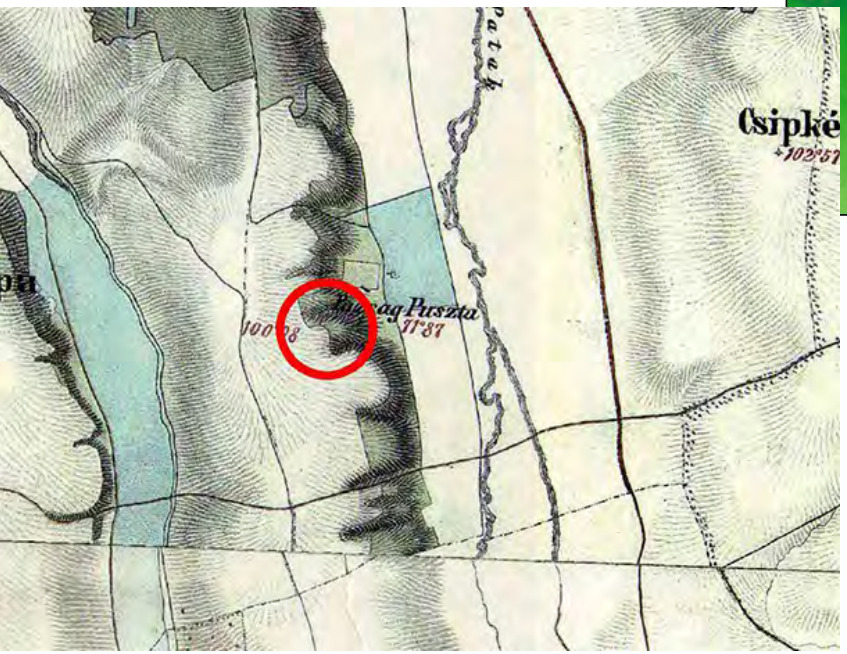


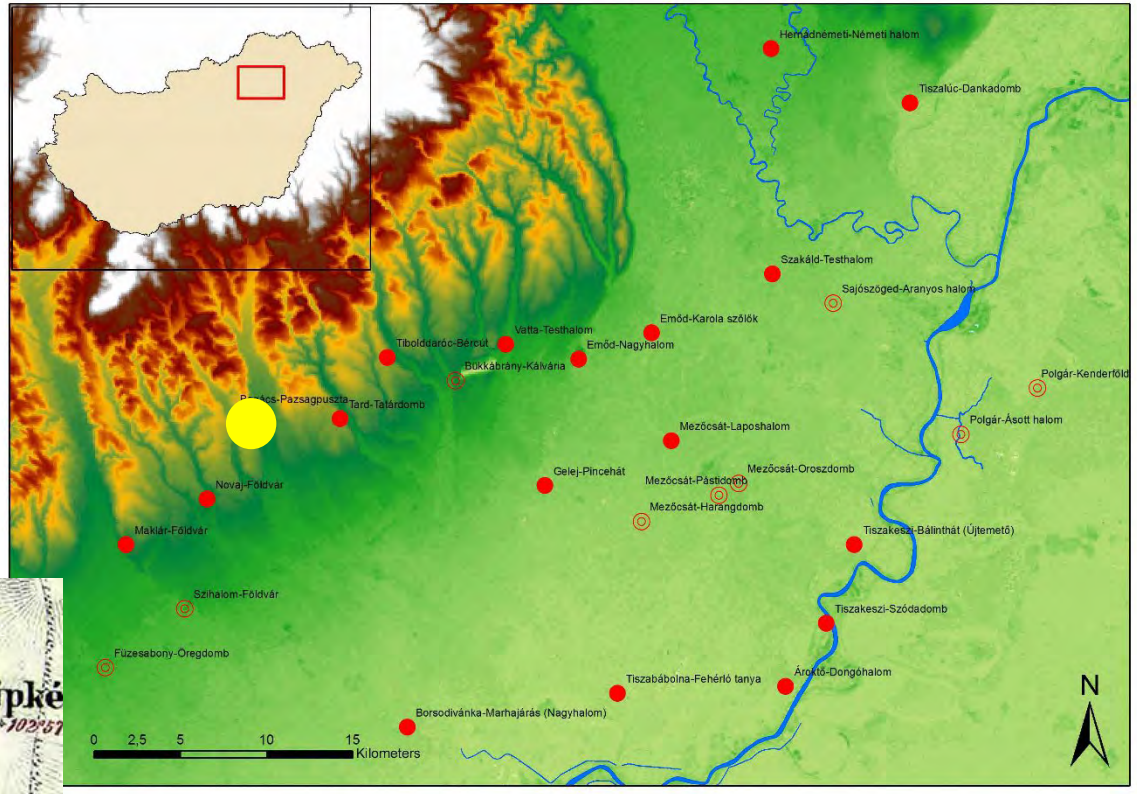




BORBAS 2015

► Bogács-Pazsagpuszta





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BORBAS 2015





BORBAS 2015



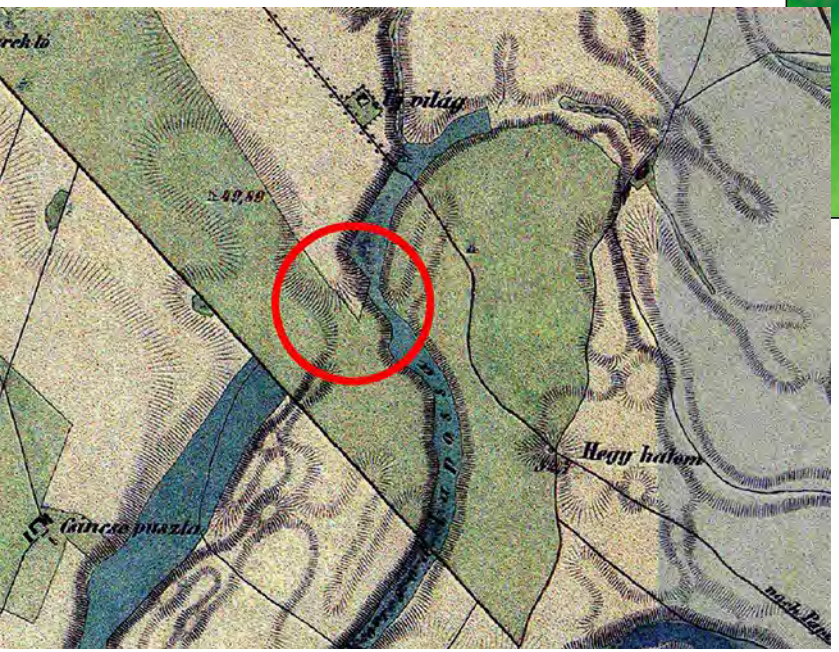


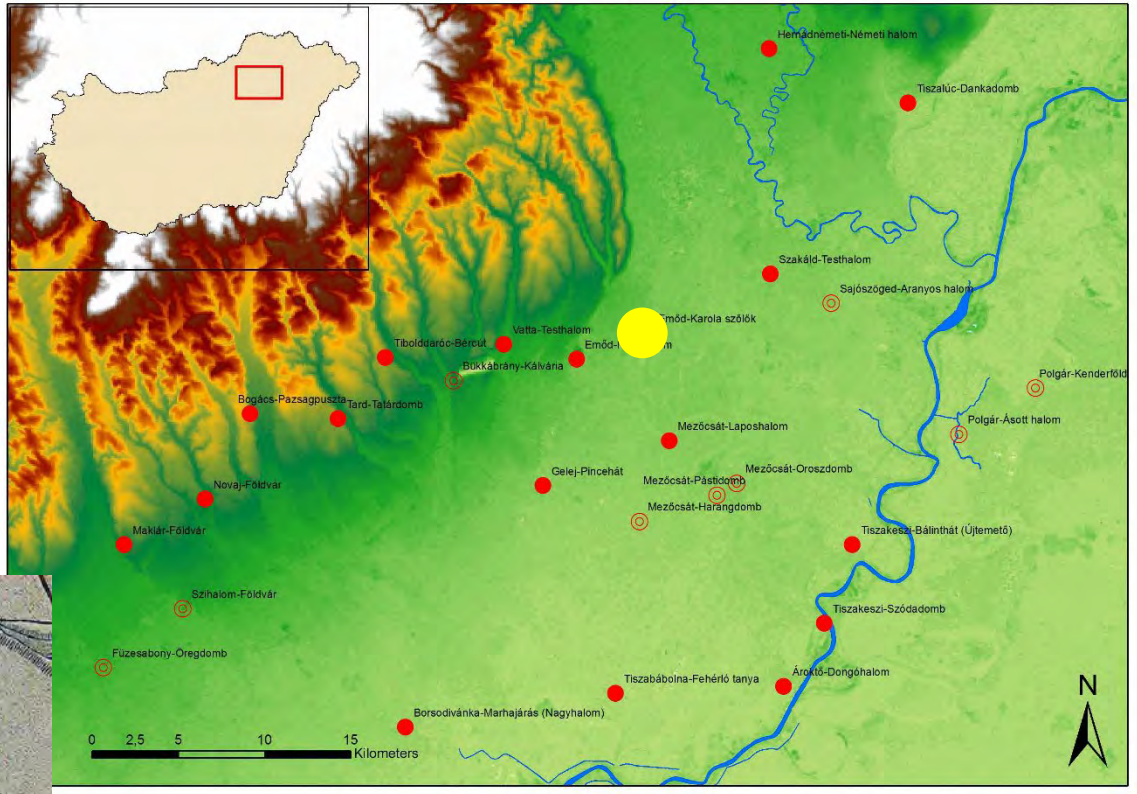
BORBAS 2015



BORBAS 2015

► Emőd-Karola szőlők











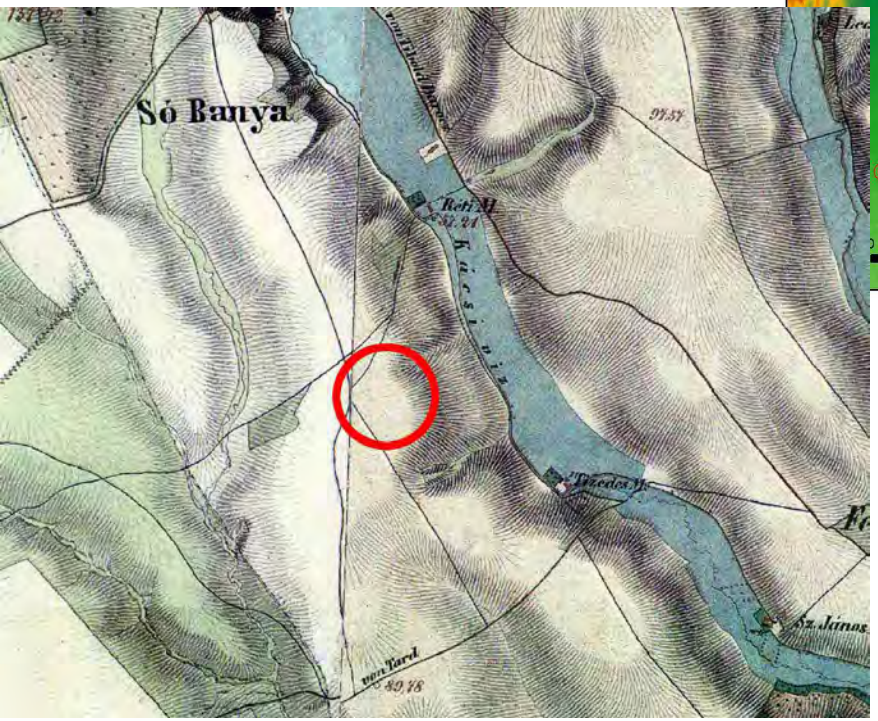
BORBAS 2015

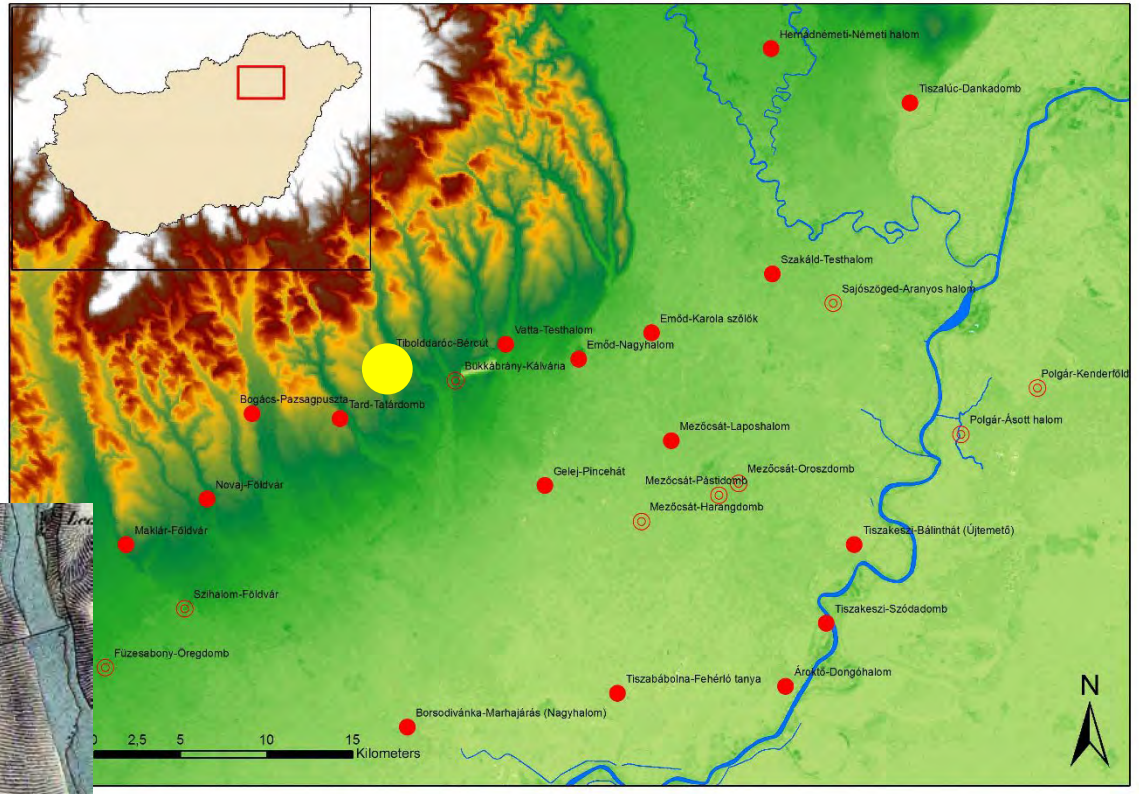




BORBAS 2015

► Tibolddaróc-Bércút







BORBAS 2015



BORBAS 2015

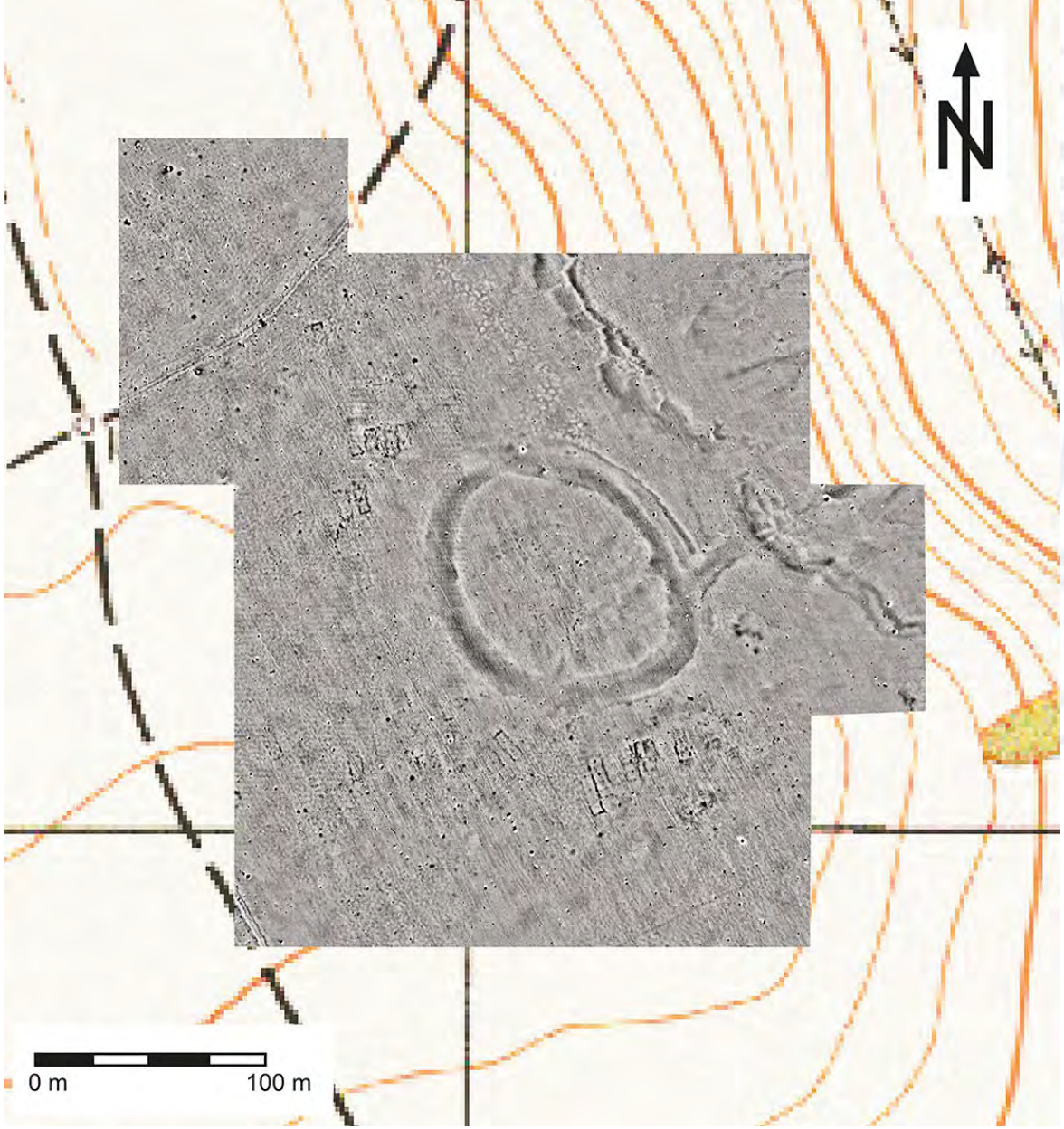




BORBAS 2015

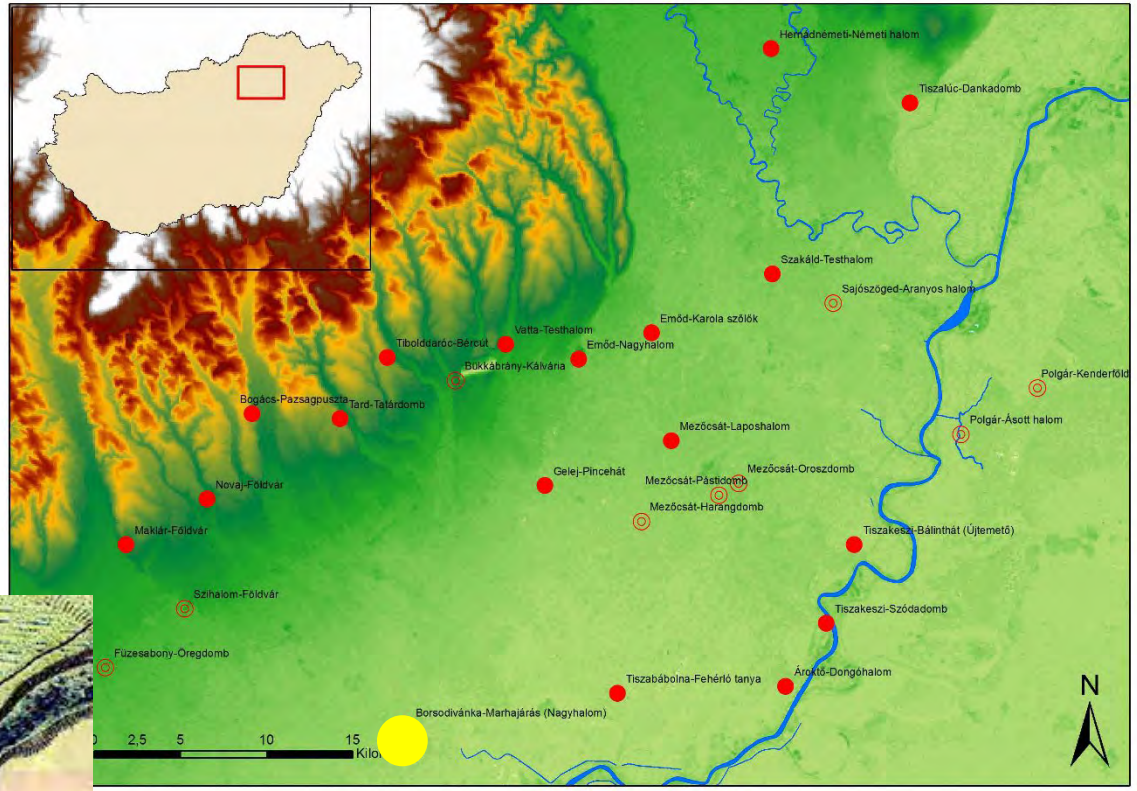


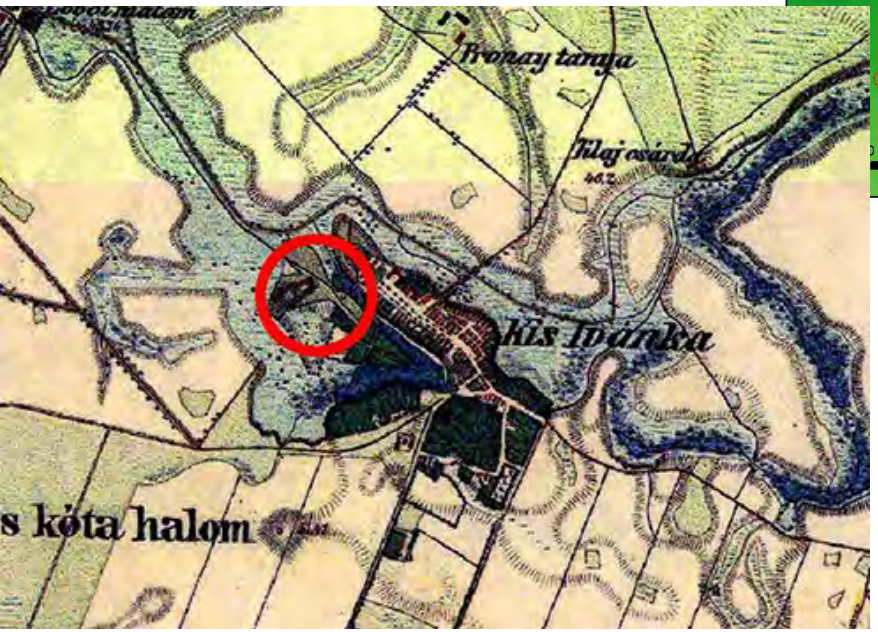
BORBAS 2015



► Tibolddaróc-Bércút. Results of magnetometry.

► Borsodivánka-Marhajárás (Nagyhalom)







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BORBAS 2015



BORBAS 2015





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BORBAS 2015







BORBAS 2015







BORBAS 2015









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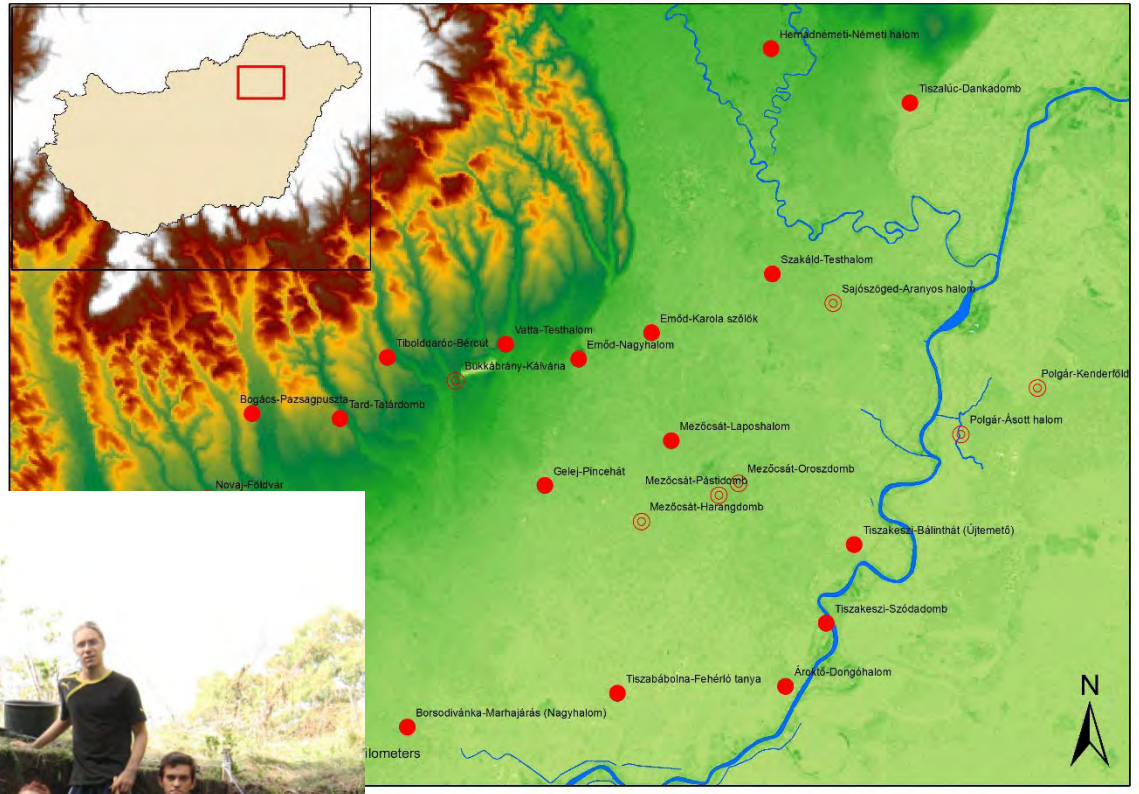
BORBAS 2015



BORBAS 2015

► Social Life on BORBAS Tells





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▲ Bronze Age friends and colleagues at Borsodivánka



BORBAS 2015





























▲ Tübingen University excursion at Borsodivánka







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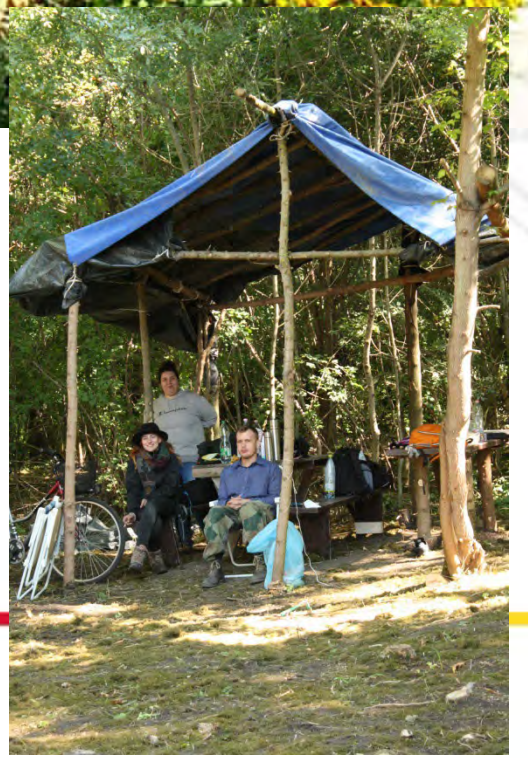




► The Salmonella campaign …









BORBAS 2015

▲ Accomodation in Borsodivánka I.



◄ Accomodation in Borsodivánka II.



BORBAS 2015

An excursion on Lake Constance



BORBAS 2015

▲ An excursion on Lake Tisza.





BORBAS 2015



BORBAS 2015



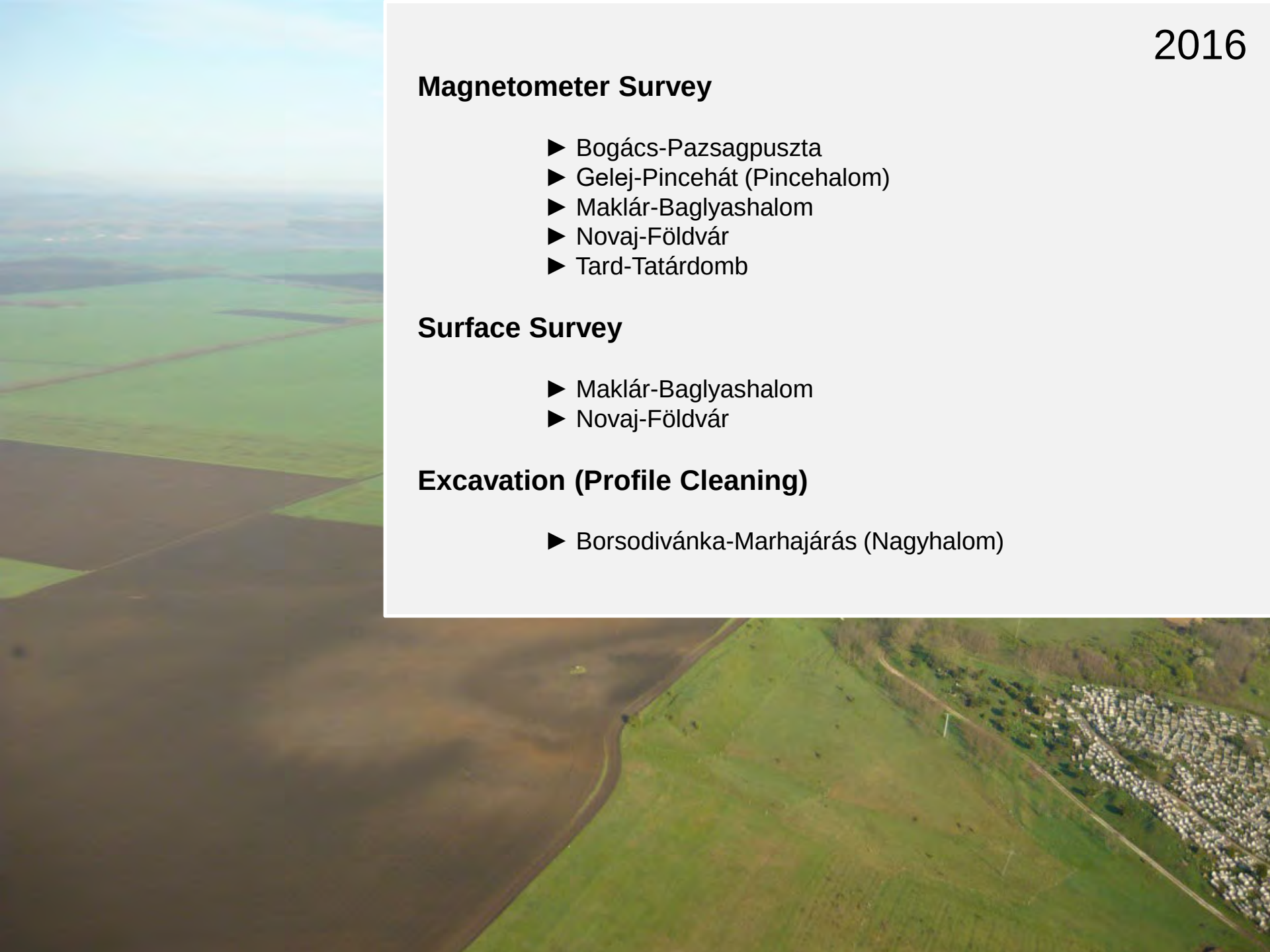
BORBAS 2015



BORBAS 2015



BORBAS 2015



2016

Magnetometer Survey

- Bogács-Pazsagpuszta
- Gelej-Pincehát (Pincehalom)
- Maklár-Baglyashalom
- Novaj-Földvár
- Tard-Tatárdomb

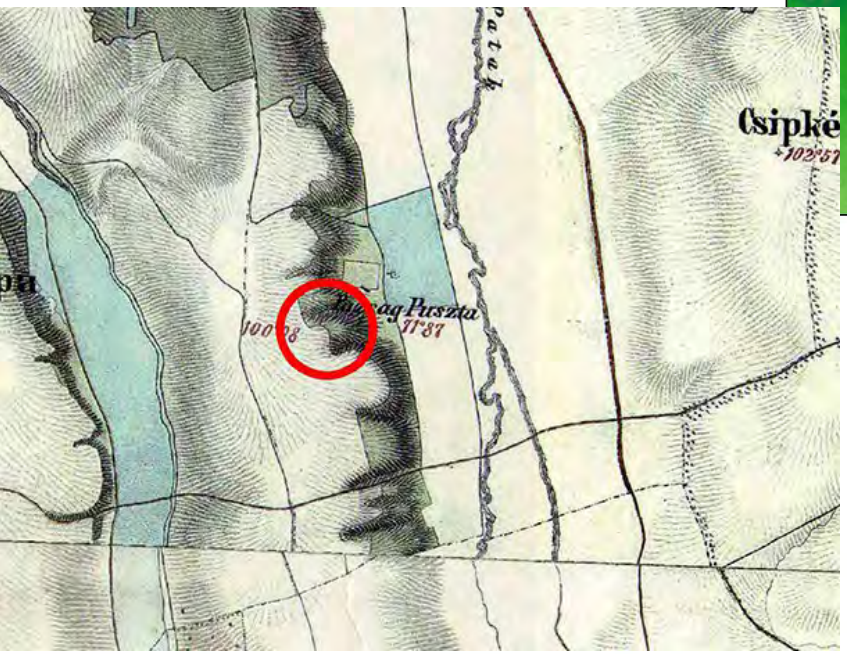
Surface Survey

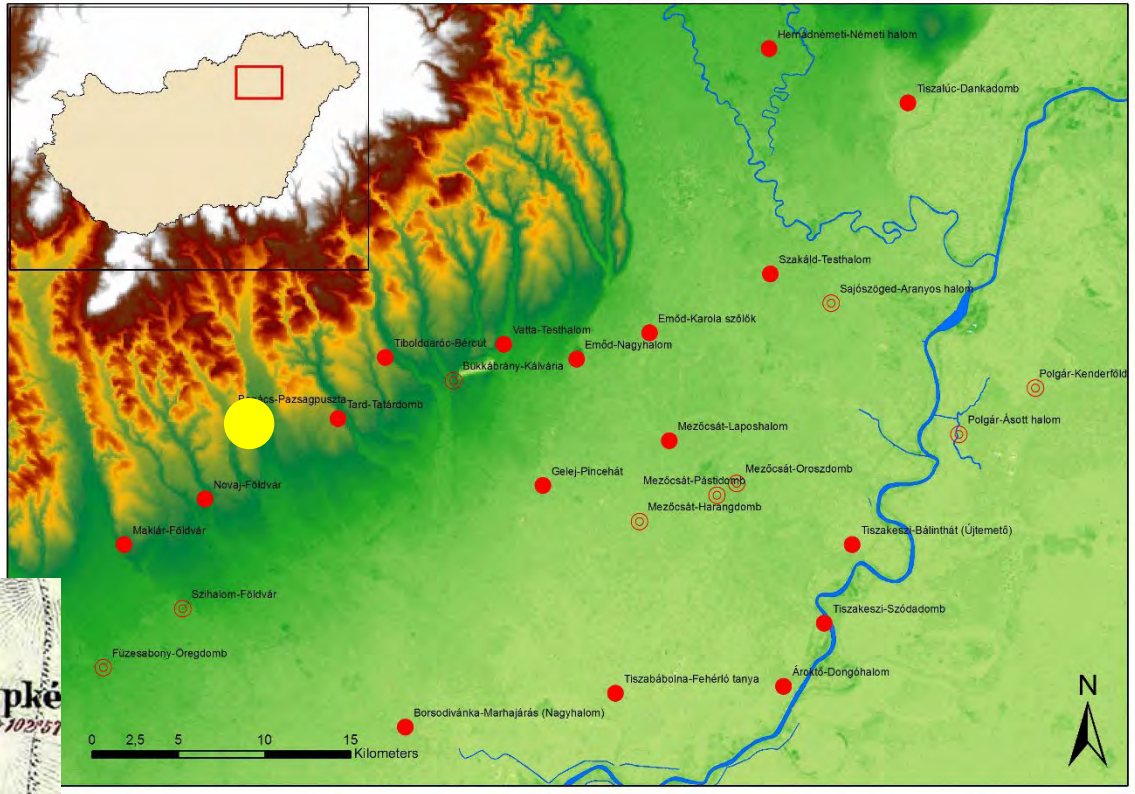
- Maklár-Baglyashalom
- Novaj-Földvár

Excavation (Profile Cleaning)

- Borsodivánka-Marhajárás (Nagyhalom)

► Bogács-Pazsagpuszta



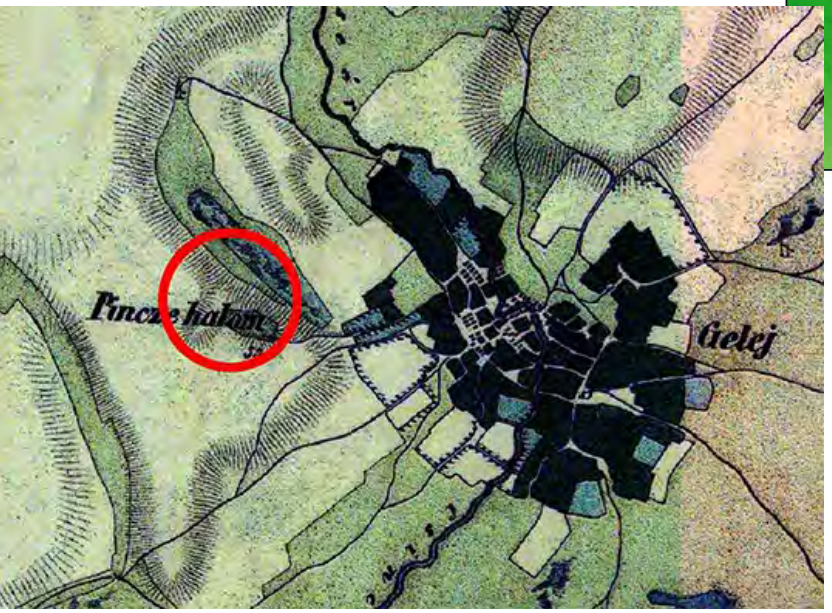


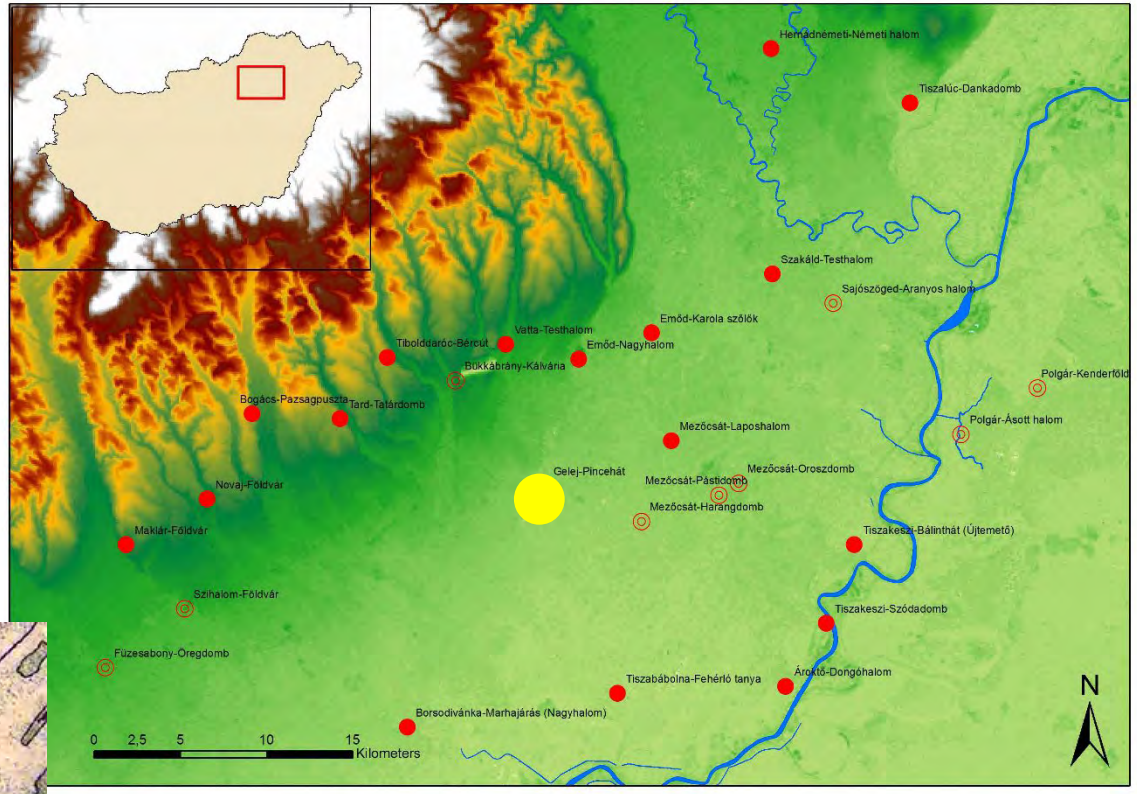




BORBAS 2016

► Gelej-Pincehát (Pincehalom)







BORBAS 2016

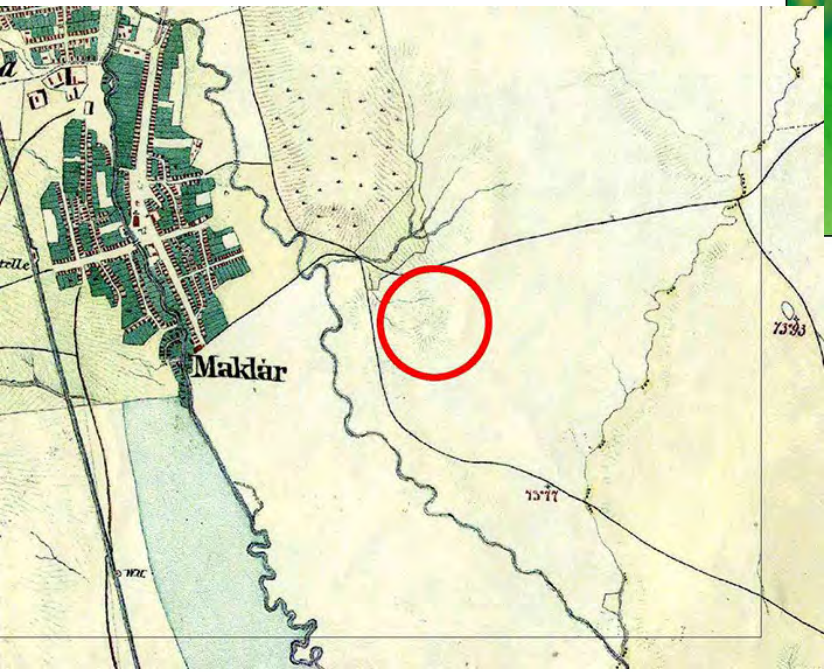


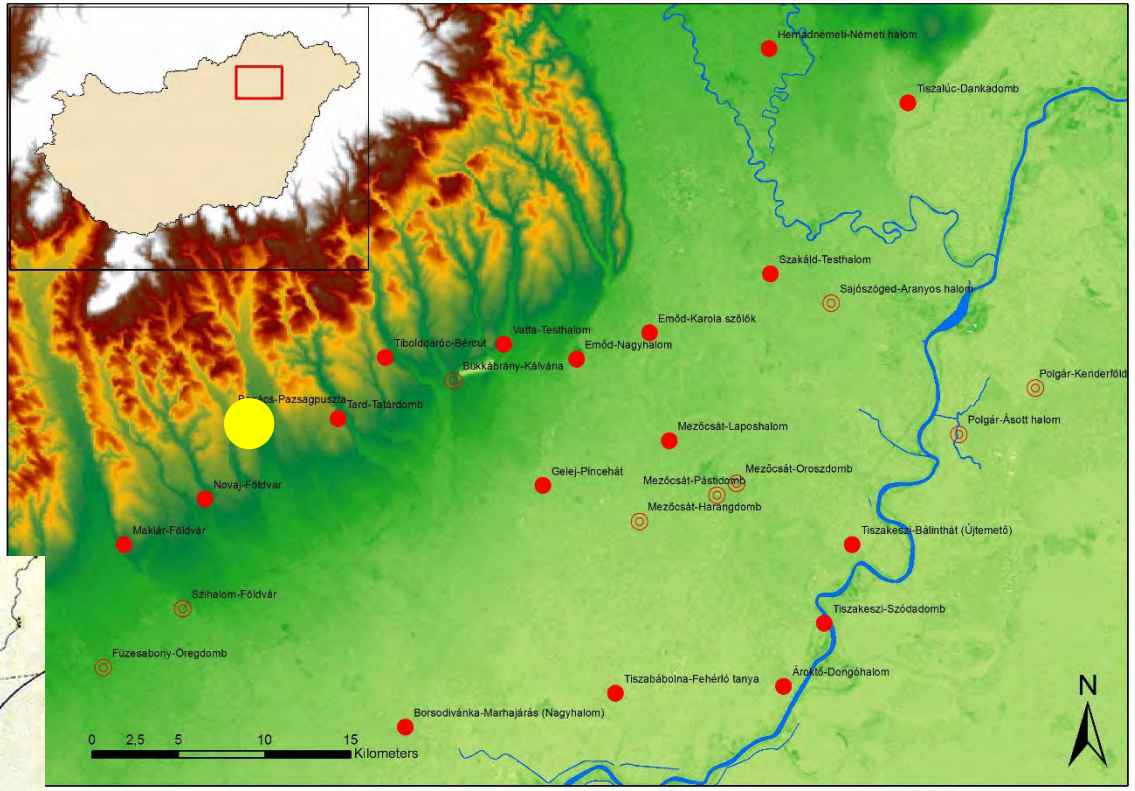
BORBAS 2016

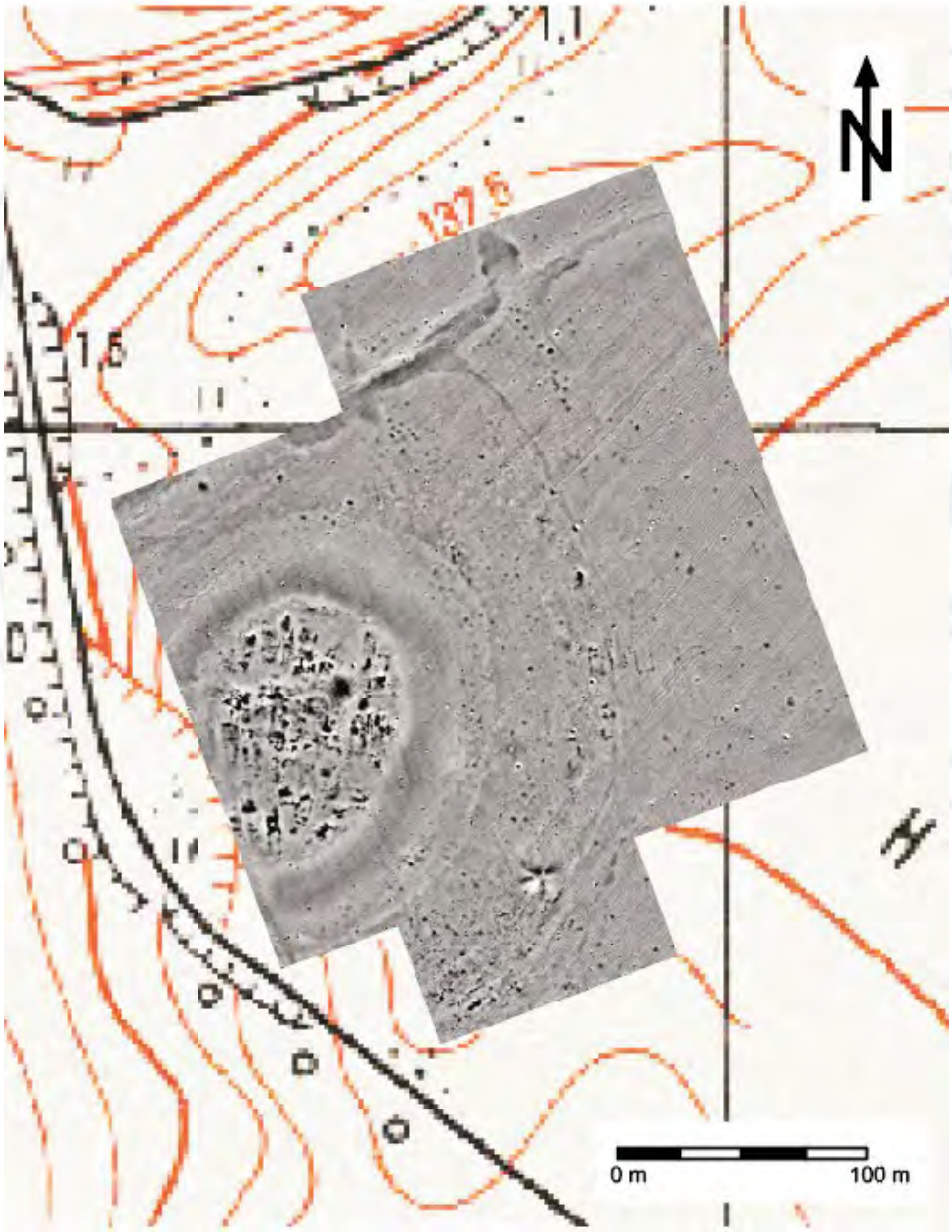
BORBAS 2016



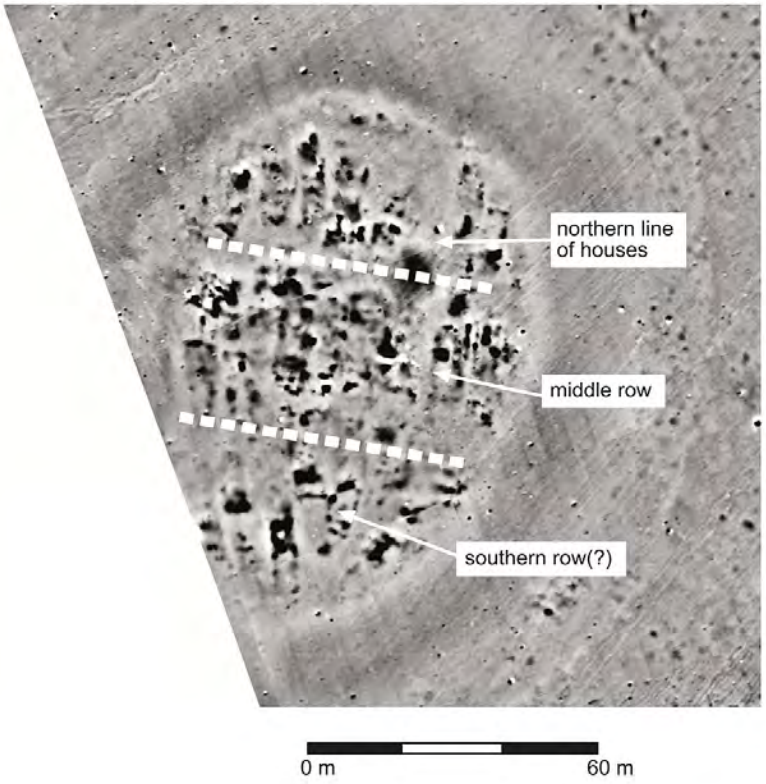
► Maklár-Baglyashalom







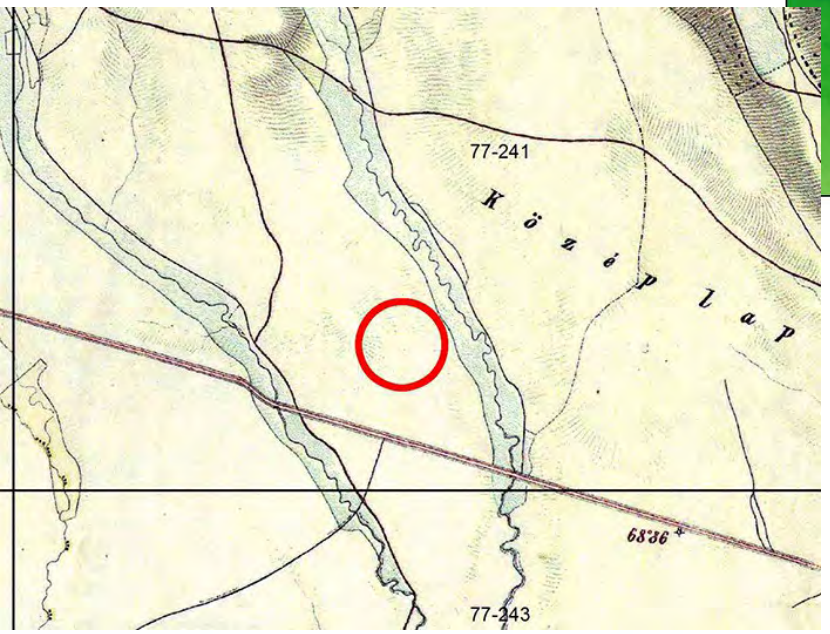
► Maklár-Baglyashalom. Results of magnetometry.

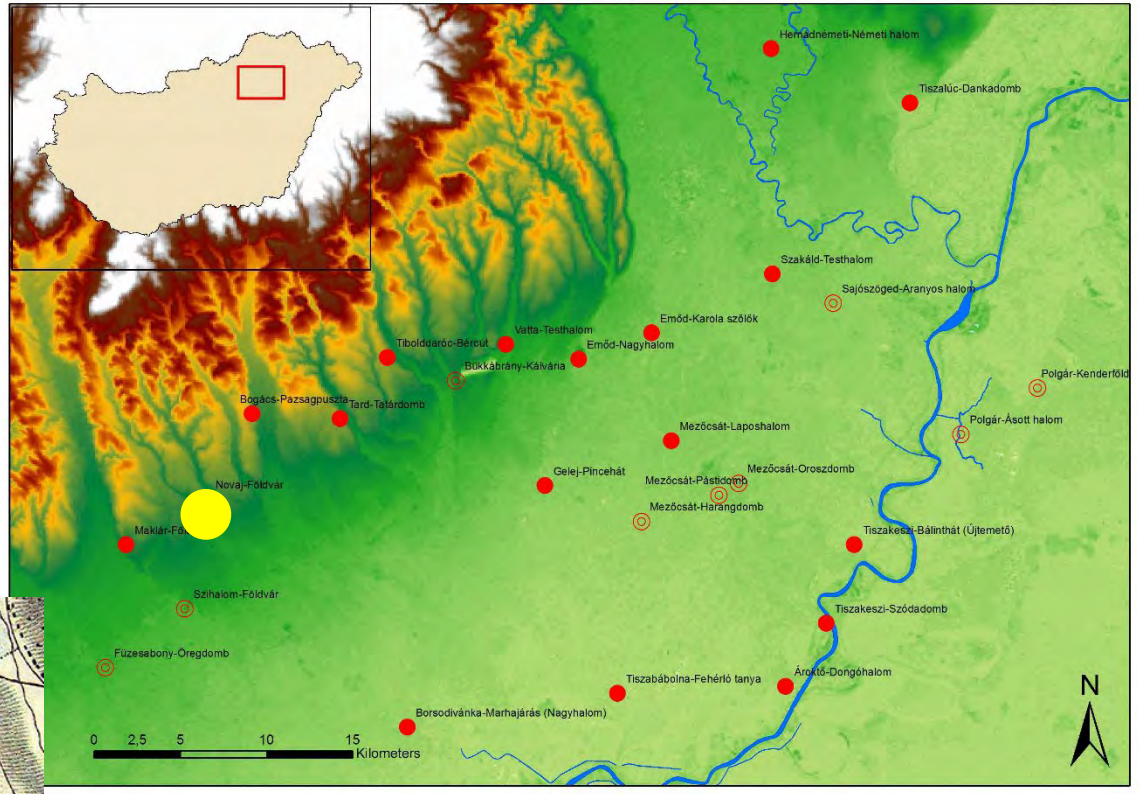


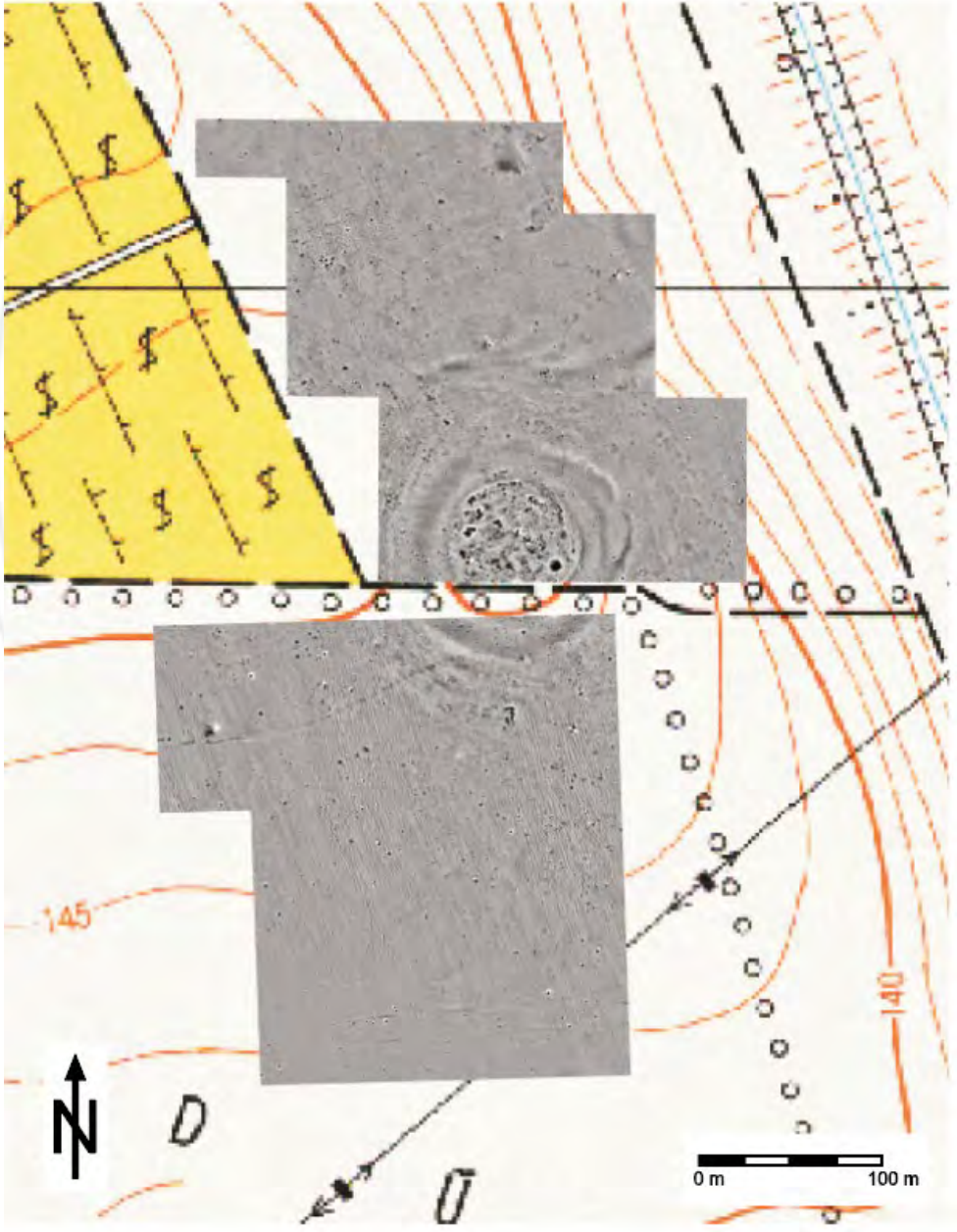


BORBAS 2016

► Novaj-Földvár





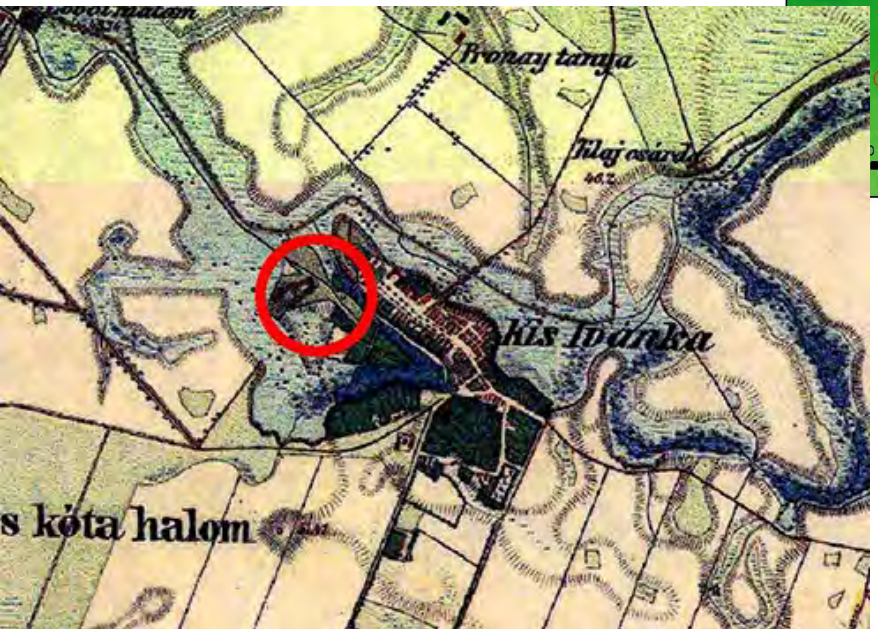


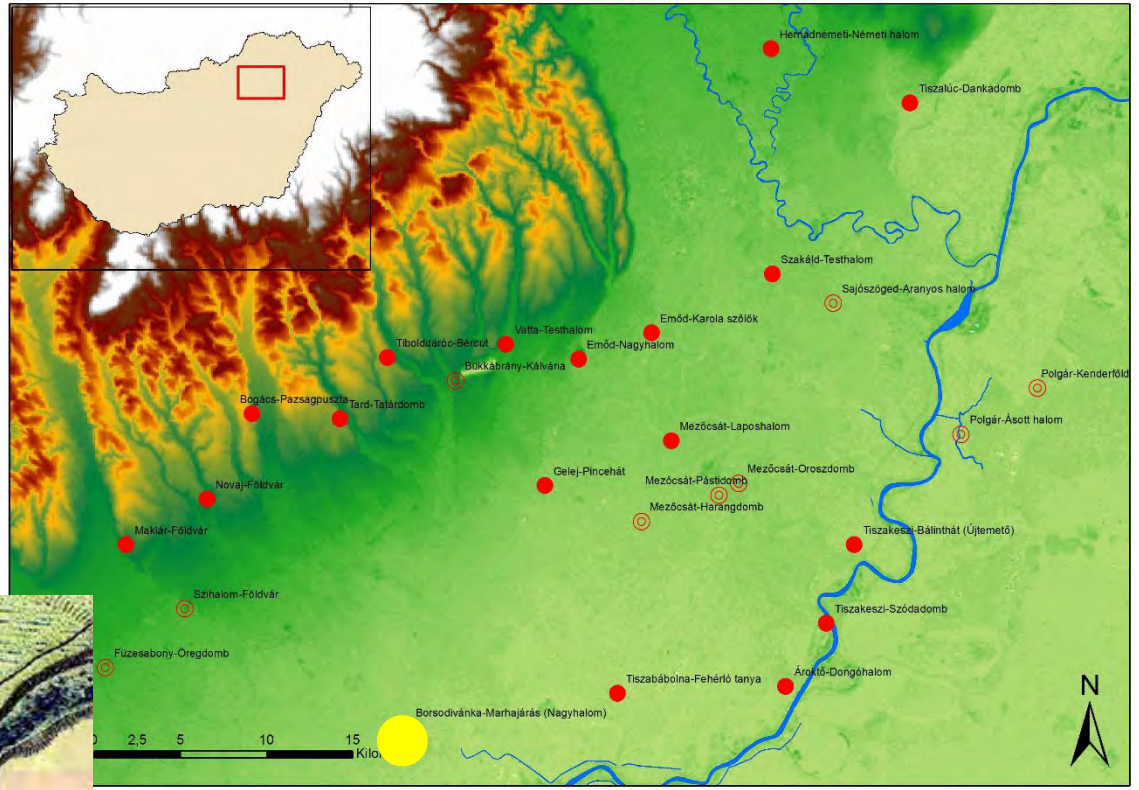
► Novaj-Földvár. Results of magnetometry.



BORBAS 2016

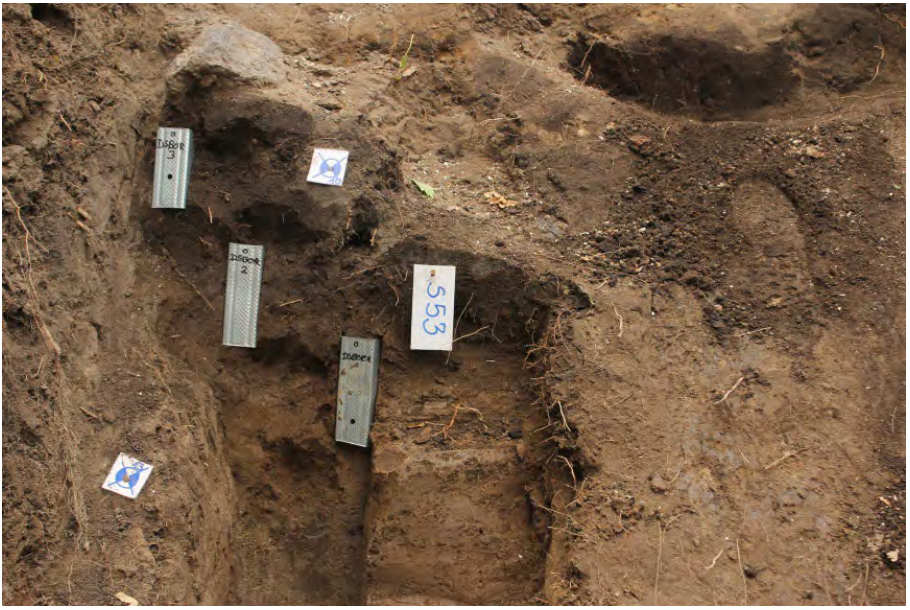
► Borsodivánka-Marhajárás (Nagyhalom)

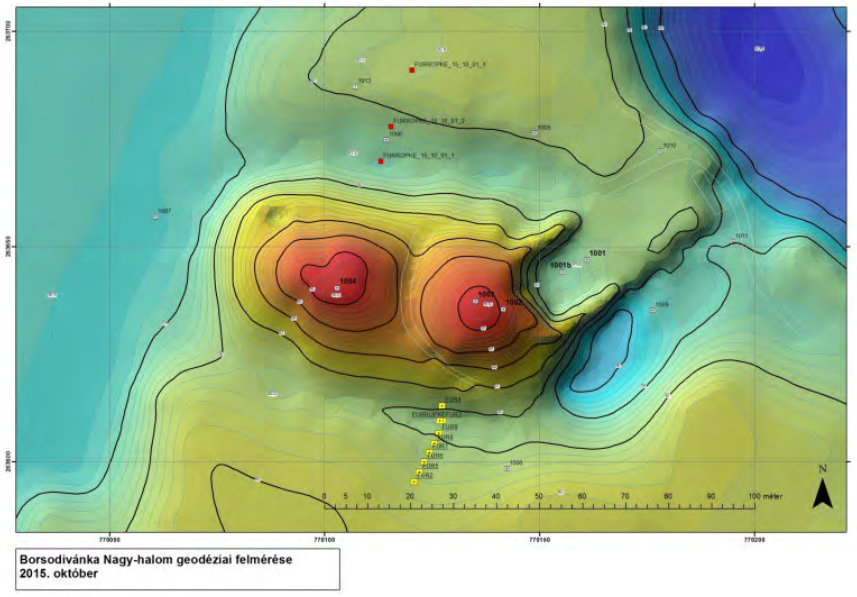












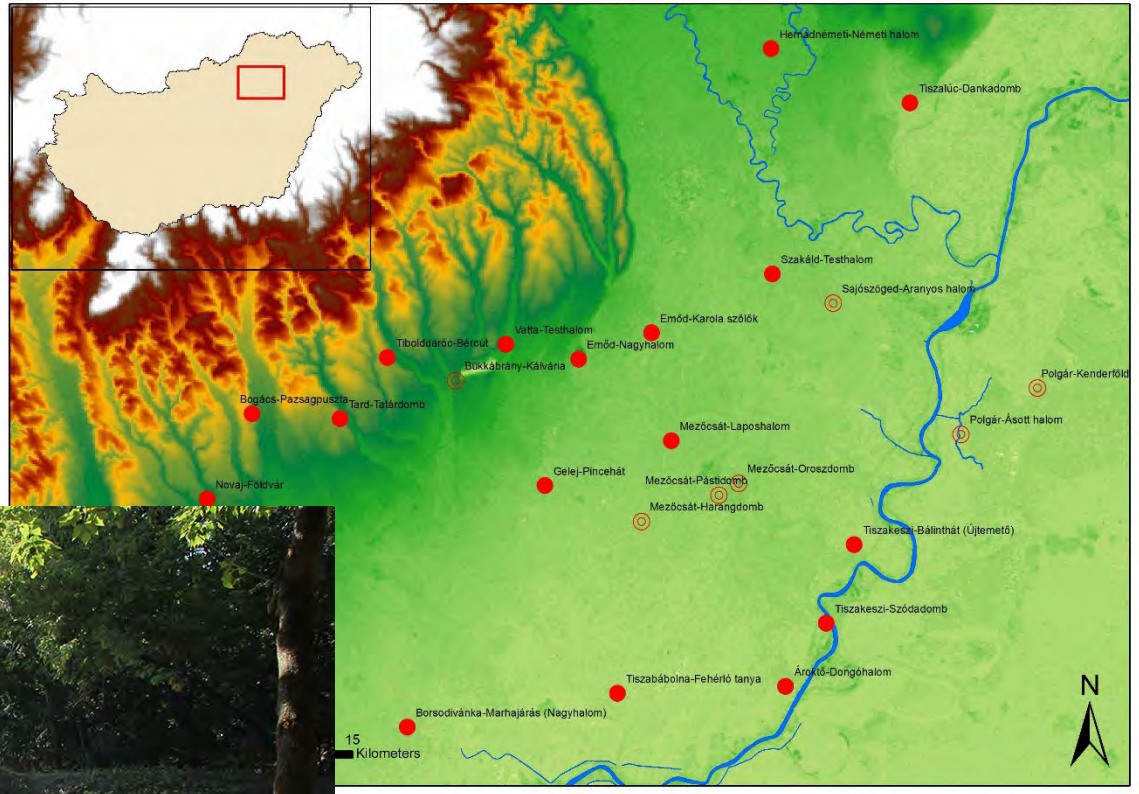
Borsodivánka Nagy-halom geodéziai felmérése
2015. október

BORBAS 2016


Auffüllung
Hausschuttschicht+Boden
Phytolith- und Müllschichten
Lehmauffüllung –
Planierungschicht
Unterste Hausschichten
Grube
Lehmplattform
Urhumus

► Social Life on BORBAS Tells





BORBAS 2016

► HARC meeting held at Borsodivánka









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► HARC meeting and excursion to Novaj-Földvár.







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▲ Accomodation in Tiszabábolna-Fehérló tanya.



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▼ An excursion to Hortobágy.





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BORBAS 2016

▲ An excursion to Eger.



◄ Egri Vár, Siege-play.





BORBAS 2016



BORBAS 2016



BORBAS 2016



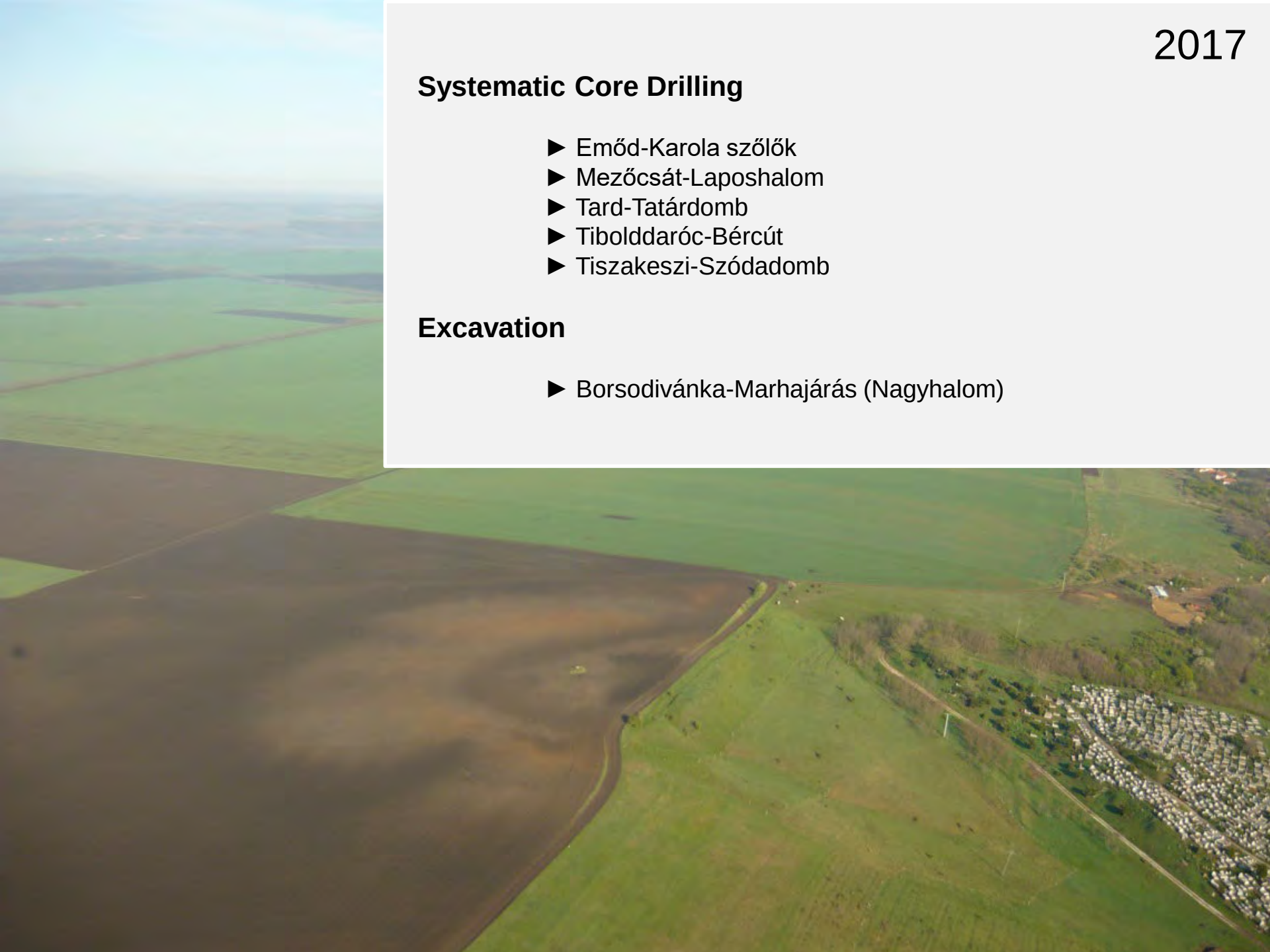
BORBAS 2016



BORBAS 2016



BORBAS 2016



2017

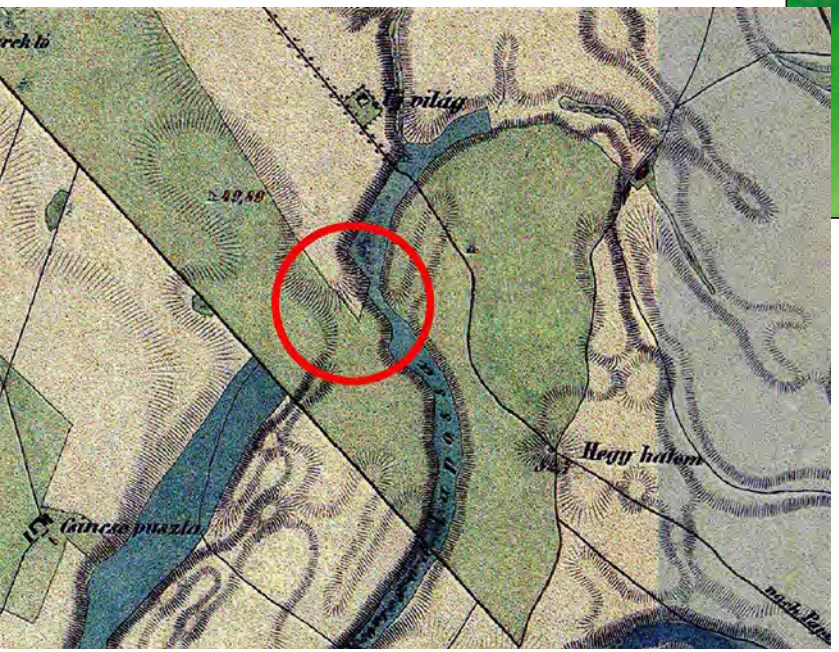
Systematic Core Drilling

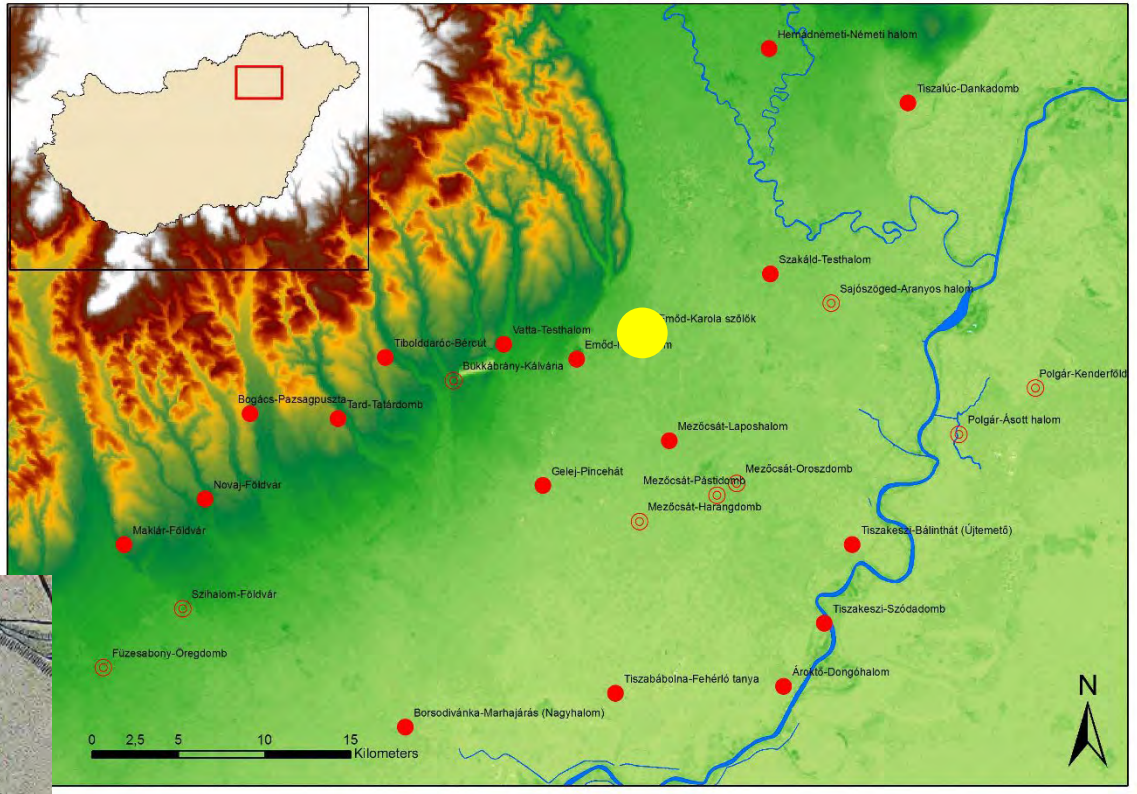
- Emőd-Karola szőlők
- Mezőcsát-Laposhalom
- Tard-Tatárdomb
- Tibolddaróc-Bércút
- Tiszakeszi-Szódadomb

Excavation

- Borsodivánka-Marhajárás (Nagyhalom)

► Emőd-Karola szőlők







BORBAS 2017

▲ First attempts at core drilling with the new equipment.

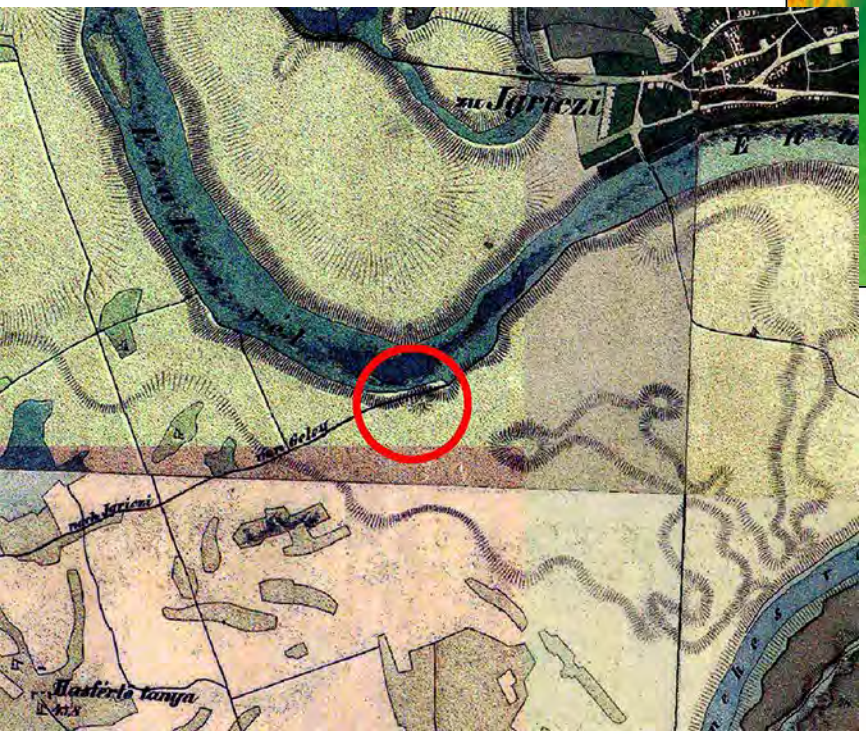


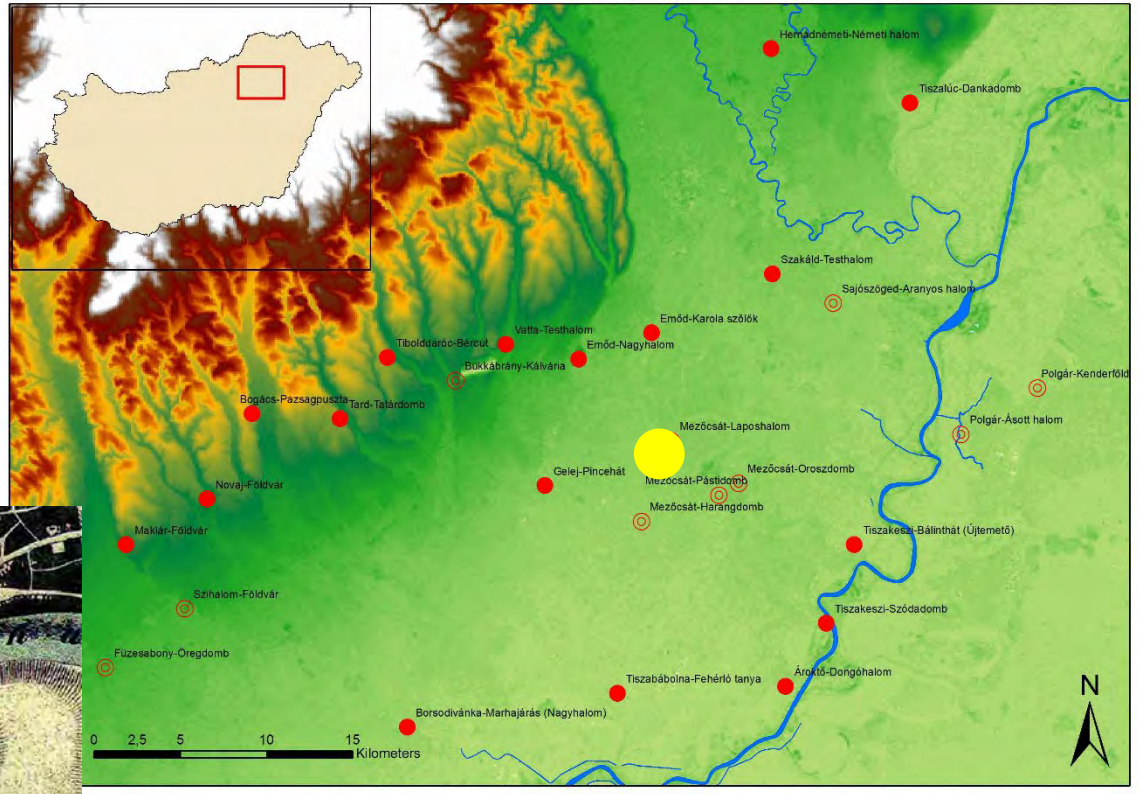




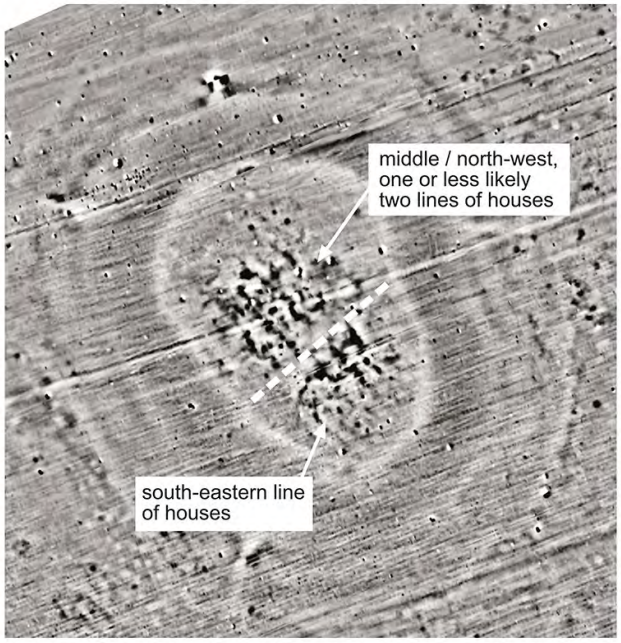
BORBAS 2017

► Mezőcsát-Laposhalom





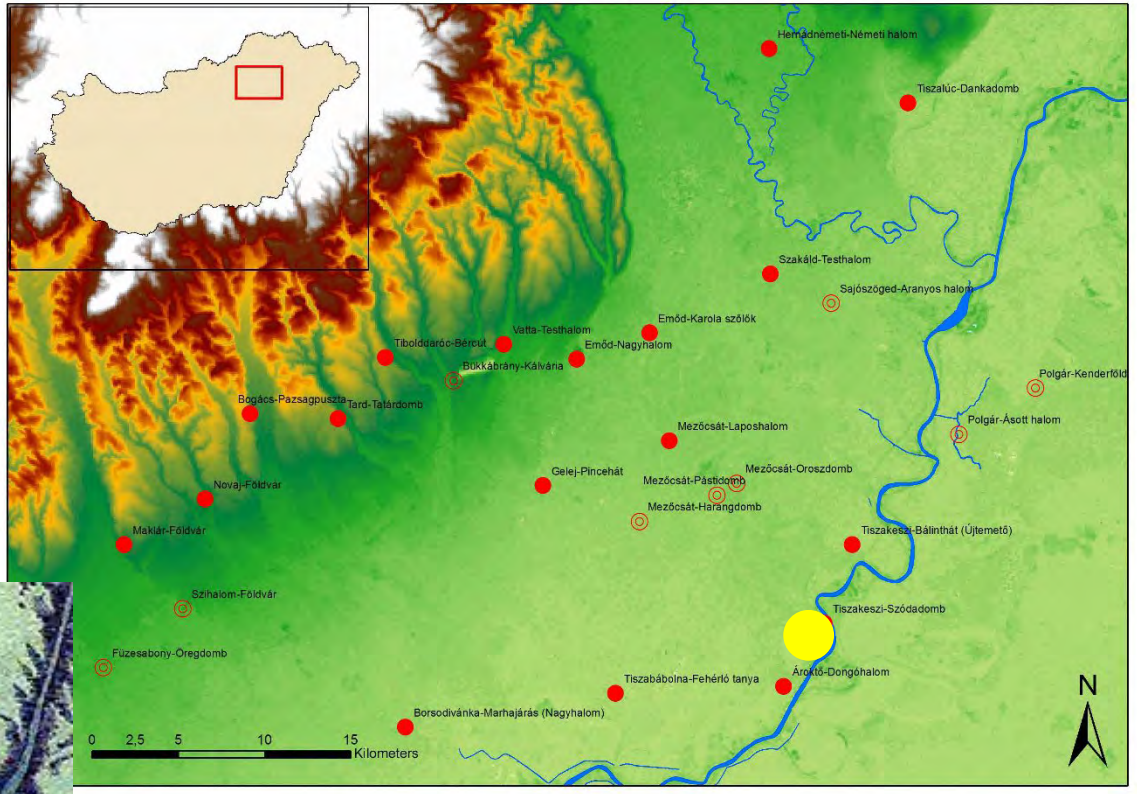



middle / north-west,
one or less likely
two lines of houses
south-eastern line
of houses
0 m
60 m

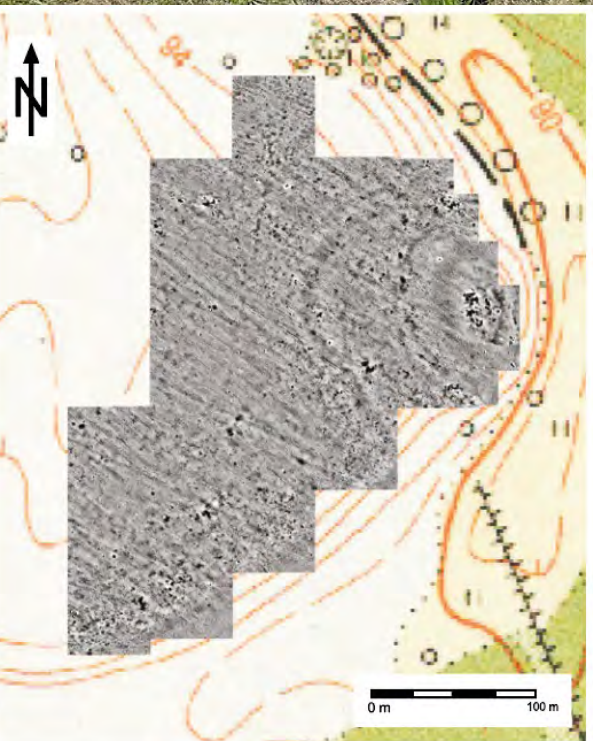


► Tiszakeszi-Szódadomb



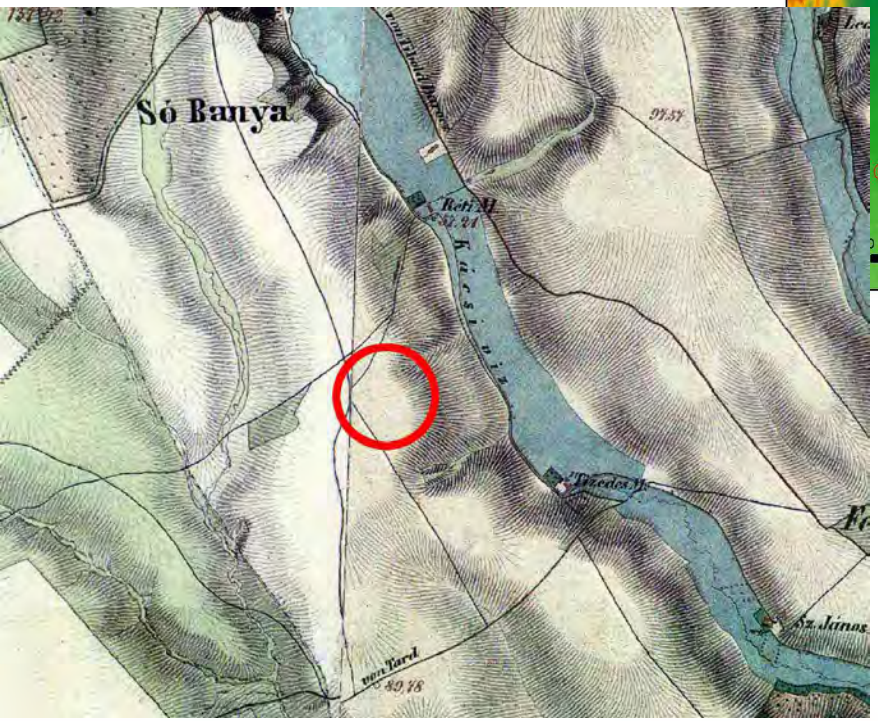


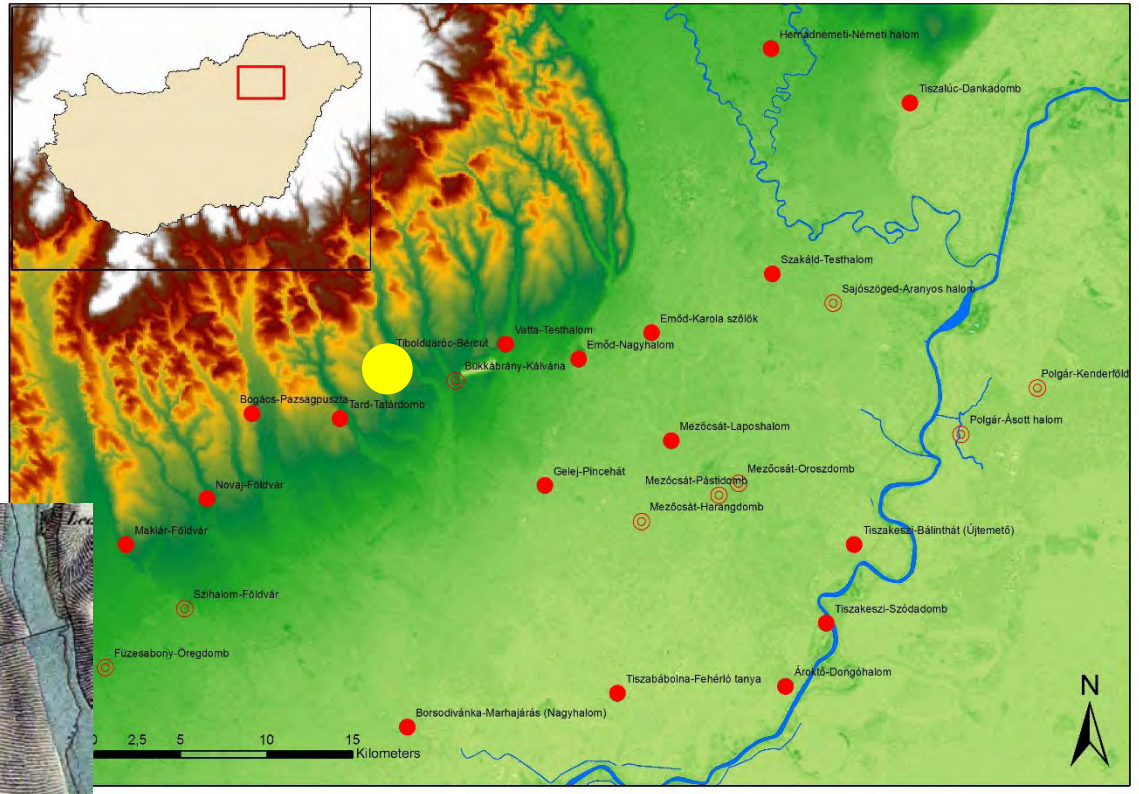



N
0 m
100 m



► Tibolddaróc-Bércút







BORBAS 2017

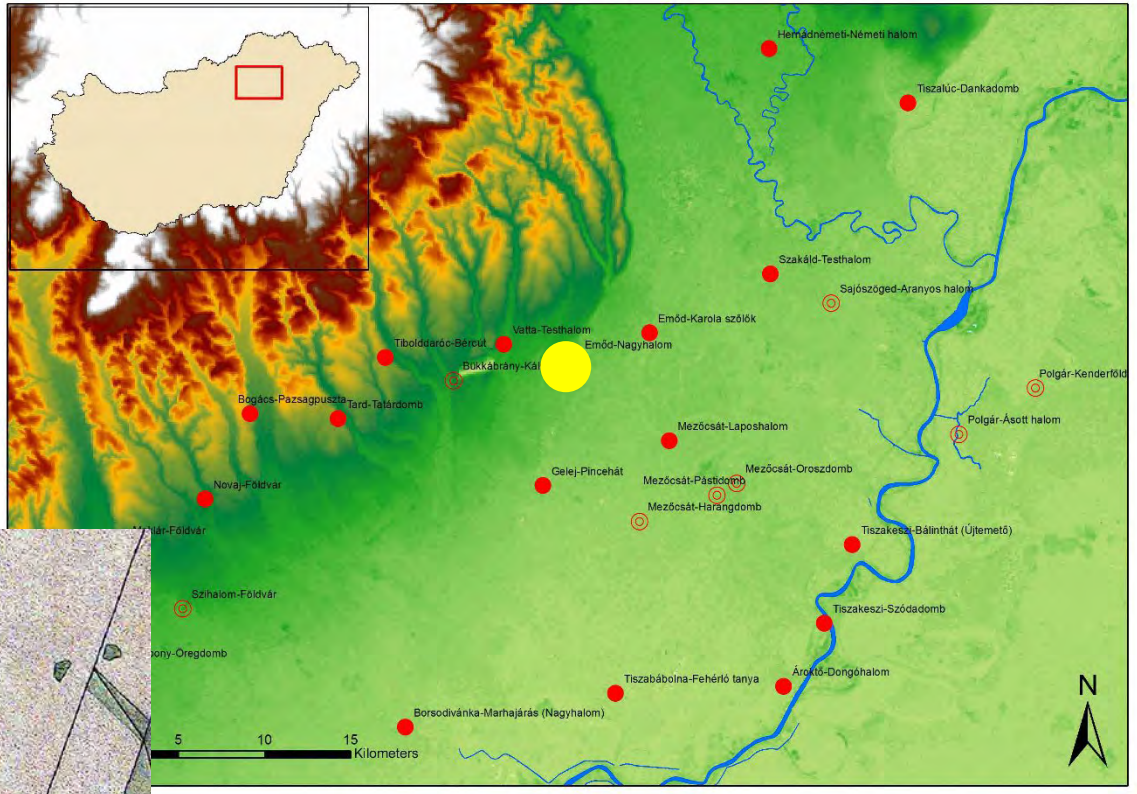


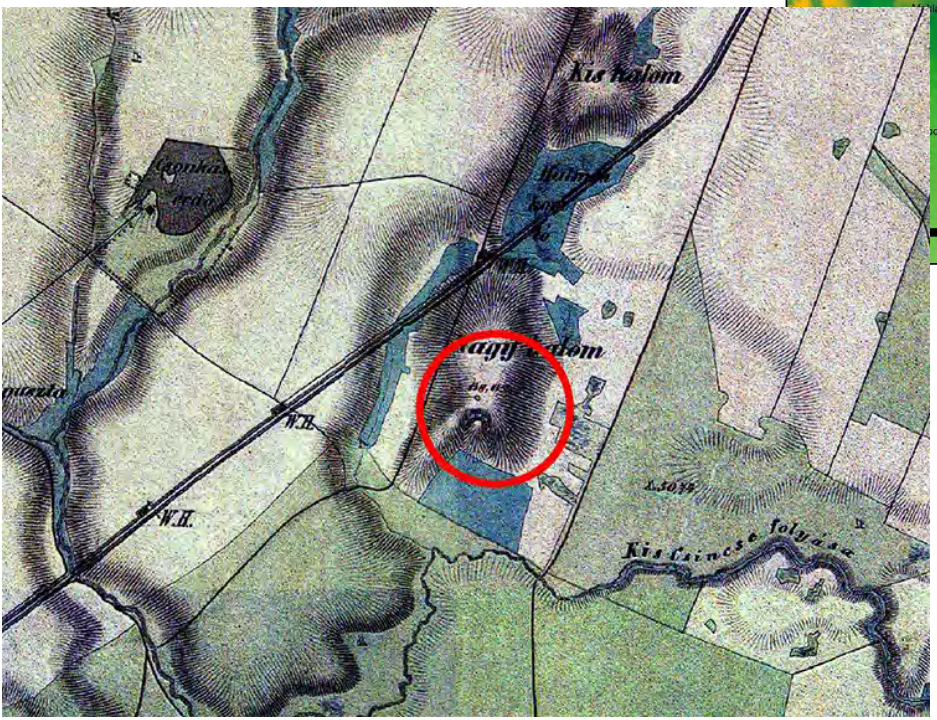
BORBAS 2017



BORBAS 2017

► Emőd-Nagyhalom



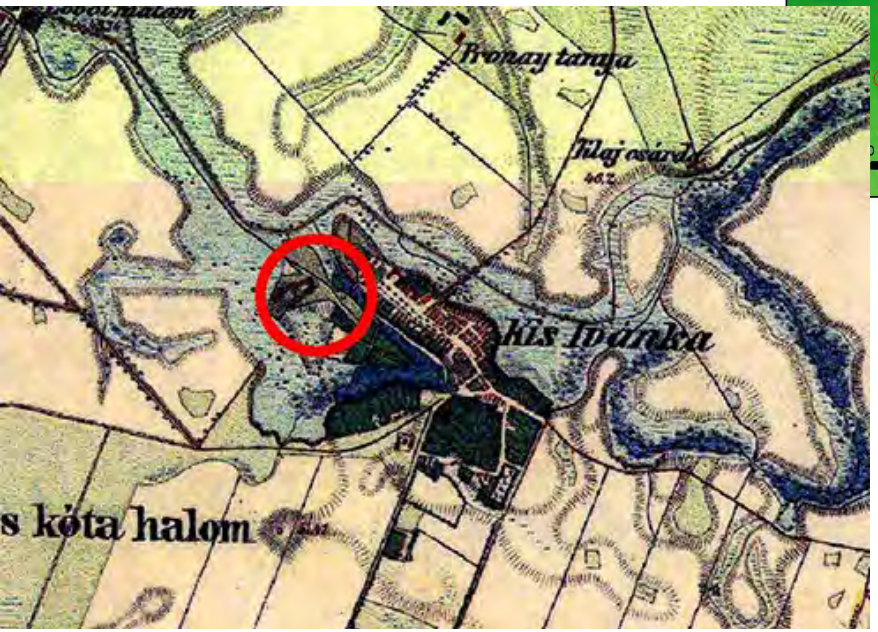


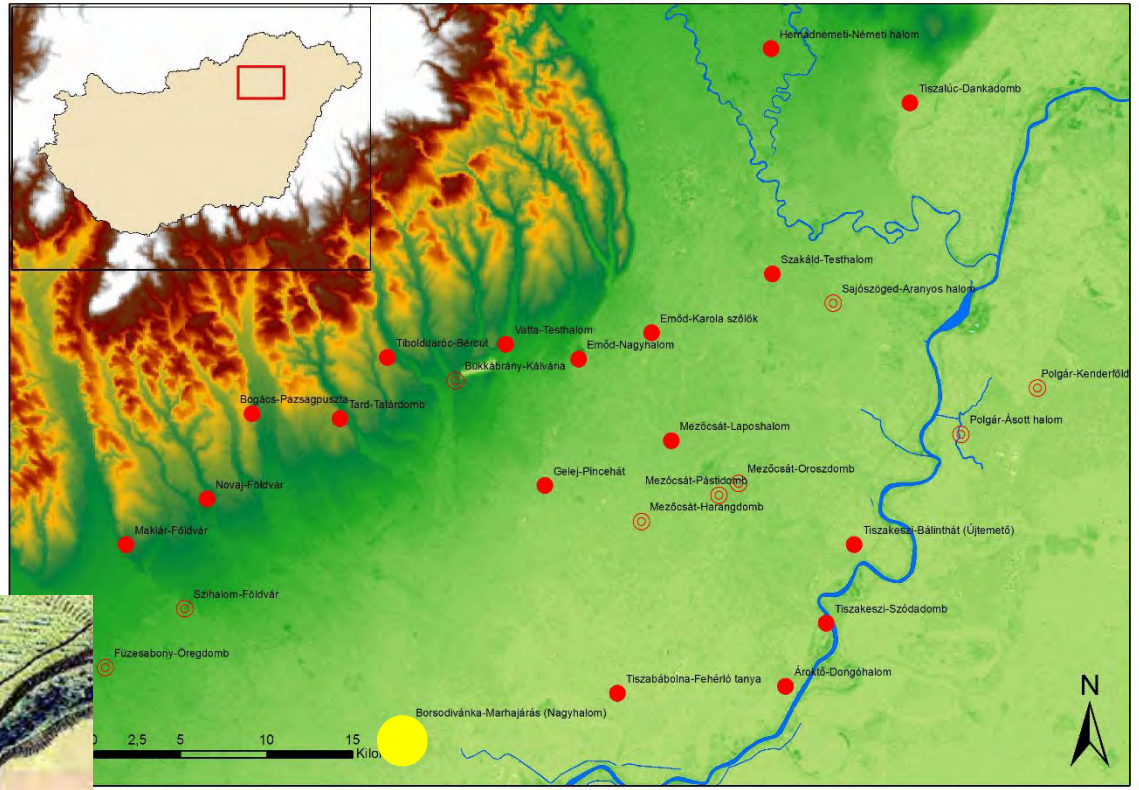
BORBAS 2017



BORBAS 2017

► Borsodivánka-Marhajárás (Nagyhalom)









BORBAS 2017



BORBAS 2017





BORBAS 2017



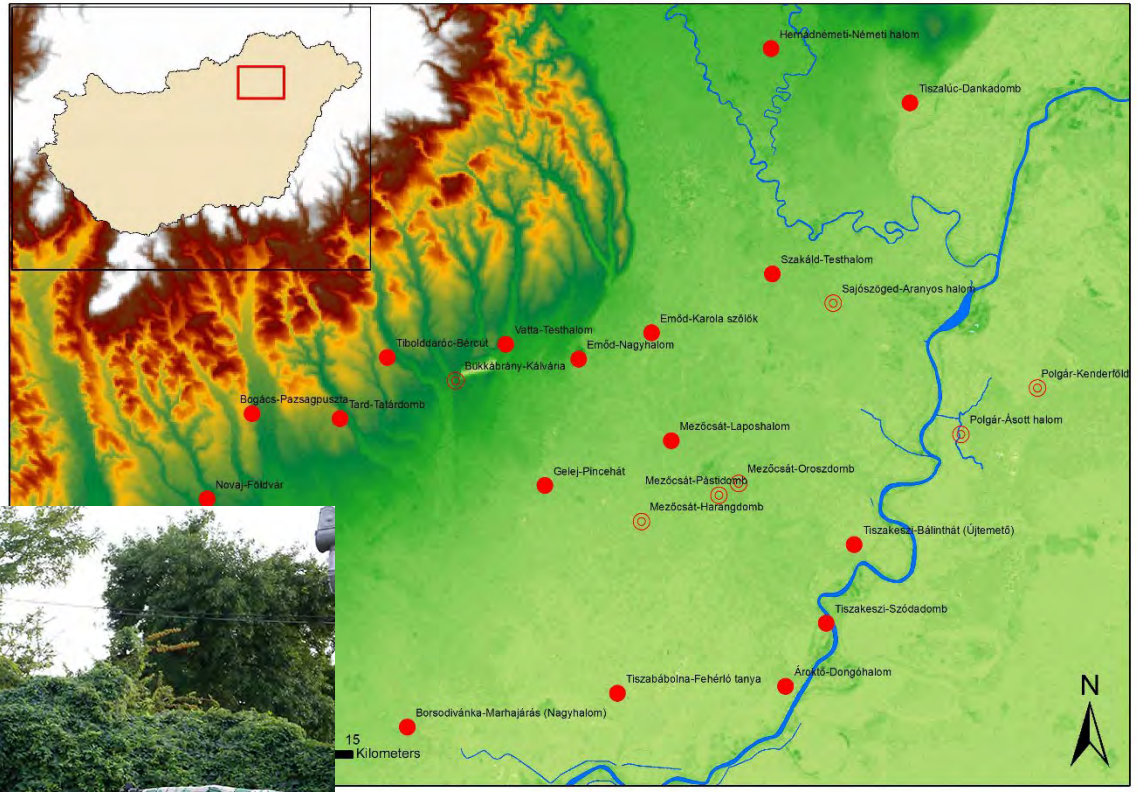
BORBAS 2017





BORBAS 2017

► Social Life on BORBAS Tells









BORBAS 2017



▲ Borsodivánka Mayor visiting the excavation



BORBAS 2017



BORBAS 2017





BORBAS 2017



BORBAS 2017



▲ The workshop of hearts to fix our drill cores.



BORBAS 2017



BORBAS 2017

2018

Systematic Core Drilling

- Borsodivánka-Marhajárás (Nagyhalom)
- Emőd-Nagyhalom
- Tibolddaróc-Bércút

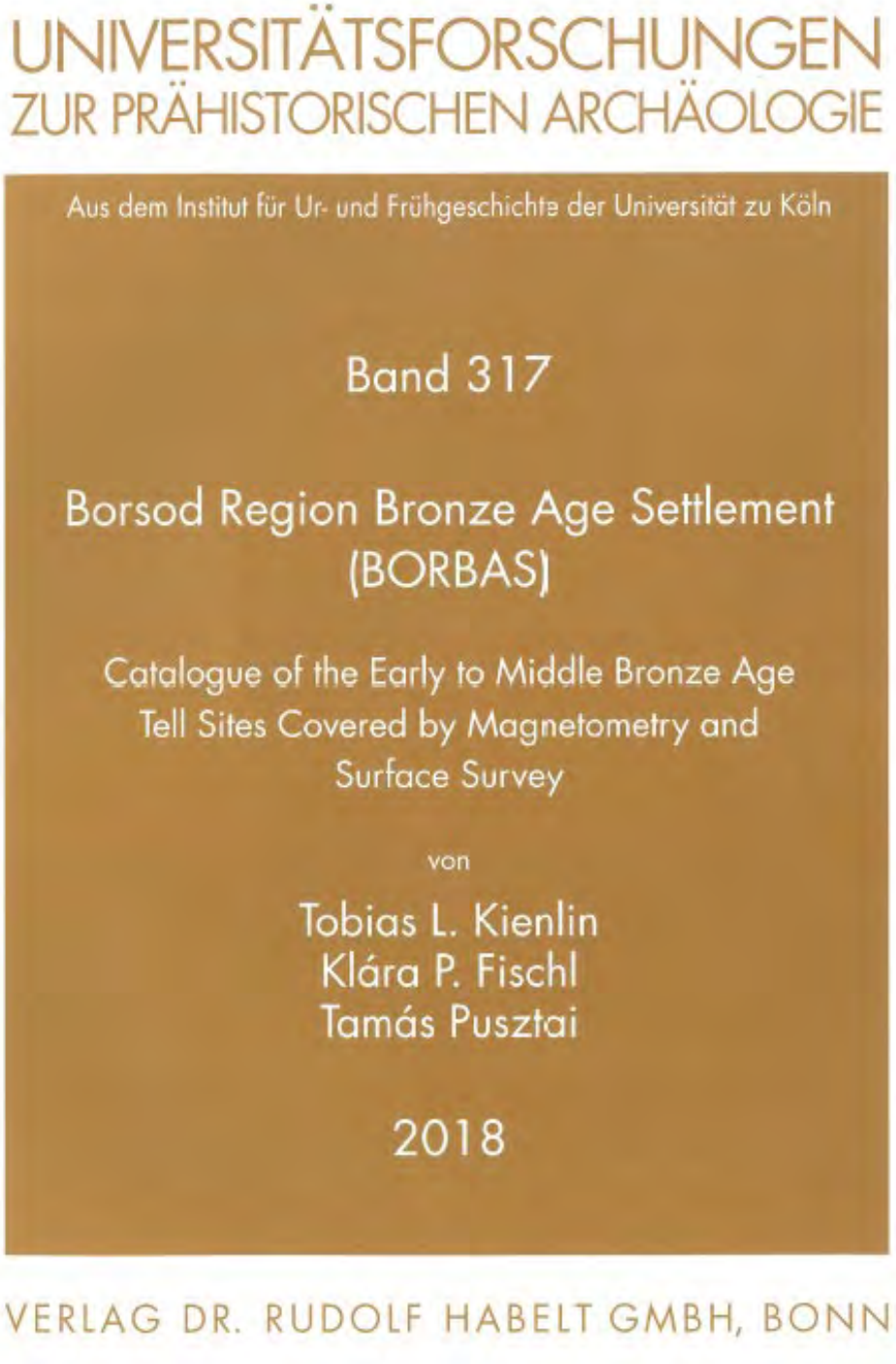
Surface Survey

- Tard-Tatárdomb

Excavation

- Borsodivánka-Marhajárás (Nagyhalom)




UNIVERSITÄTSFORSCHUNGEN
ZUR PRÄHISTORISCHEN ARCHÄOLOGIE
Aus dem Institut für Ur- und Frühgeschichte der Universität zu Köln
Band 317
Borsod Region Bronze Age Settlement
(BORBAS)
Catalogue of the Early to Middle Bronze Age
Tell Sites Covered by Magnetometry and
Surface Survey
von
Tobias L. Kienlin
Klára P. Fischl
Tamás Pusztai
2018
VERLAG DR. RUDOLF HABELT GMBH, BONN

BORBAS 2018

Ausgrabung auf der bronzezeitlichen Tell-Siedlung von Borsodivanka (Nordost-Ungarn)





Geländepraktikum
Sa., 15. September bis
So., 7. Oktober 2018

Aus organisatorischen Gründen kann in diesem Jahr als Geländepraktikum nur eine dreiwöchige Kampagne zu dem oben genannten Termin angeboten werden. Im Rahmen der Kampagne wird die Ausgrabung in den oberen Schichten der Tellsiedlung von Borsodivanka fortgesetzt. Neben der archäologischen Dokumentation der Siedlungsschichten und Befunde sollen Proben für die naturwissenschaftliche Datierung und paläobotanische Untersuchungen entnommen werden.

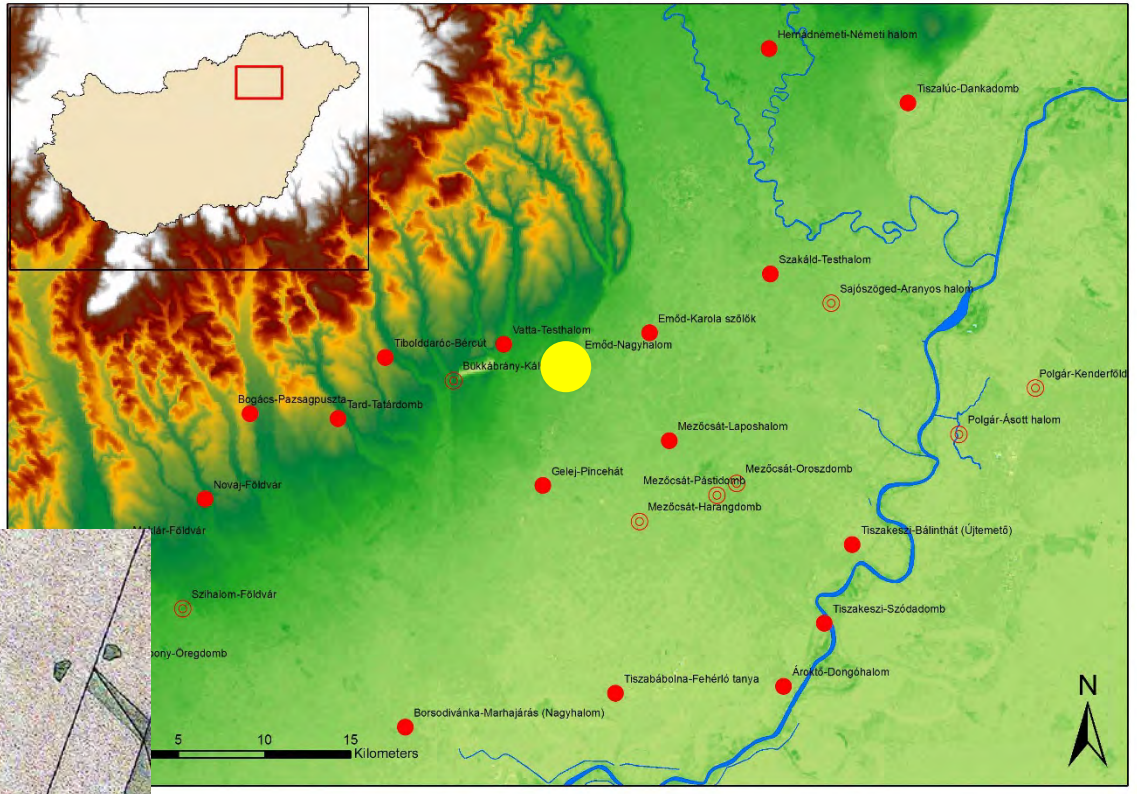
Nachdem im vergangenen Jahr die geomagnetische Prospektion auf den bronzezeitlichen Siedlungen der Borsodebene zwischen Bükk-Gebirge und Theiss weitgehend abgeschlossen wurde, stehen in diesem Projektteil nur noch einzelne Nacharbeiten an. Statt dessen wird das 2017 begonnene systematische Bohrprogramm auf den zuvor prospektierten Siedlungshügeln fortgesetzt.

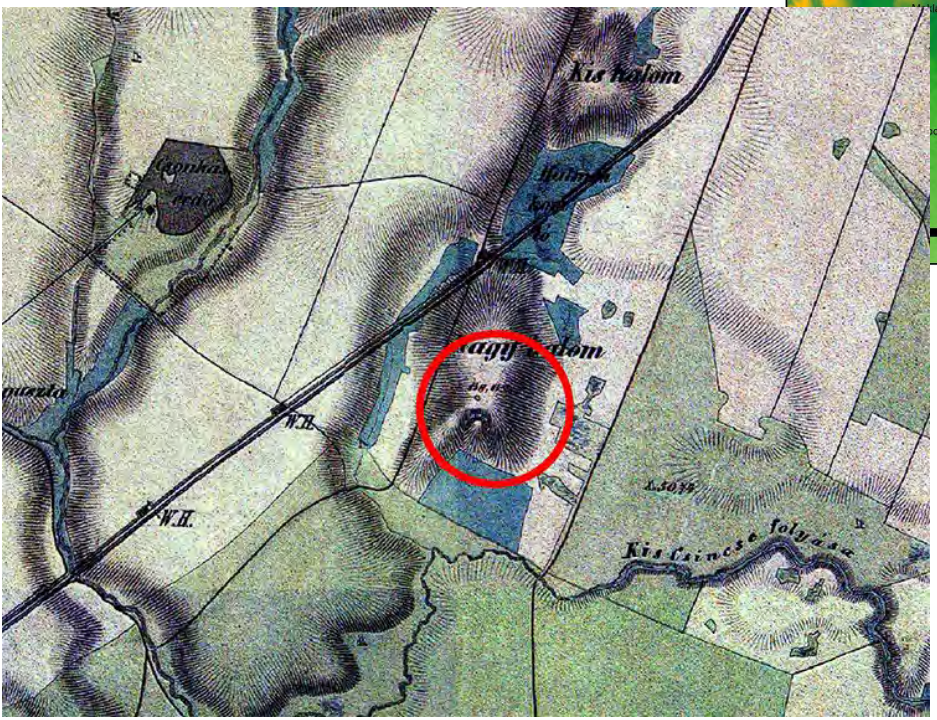
Das Geländepraktikum findet im Rahmen eines Projekts des Instituts für Ur- und Frühgeschichte der Universität zu Köln, der Universität und des Herman Otto Museums in Miskolc statt. Sie haben Gelegenheit, die Grundzüge der Schichtgrabung, der geomagnetischen Prospektion und der Handhabung einer Rammkernsonde zur Entnahme von Bohrkernen zu erlernen. Sie erhalten eine Einführung in die Archäologie der Bronzezeit des Karpatenbeckens.

Weitere Informationen zu unserem Projekt entnehmen Sie bitte unseren Publikationen auf academia.edu.

BORBAS 2018

► Emőd-Nagyhalom







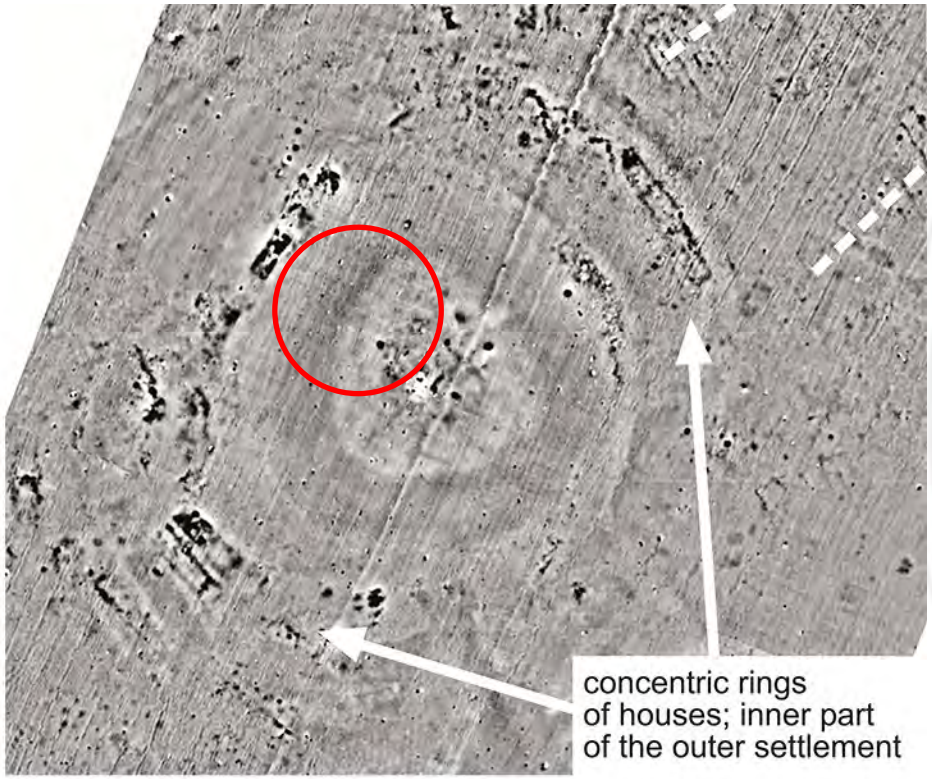
BORBAS 2018

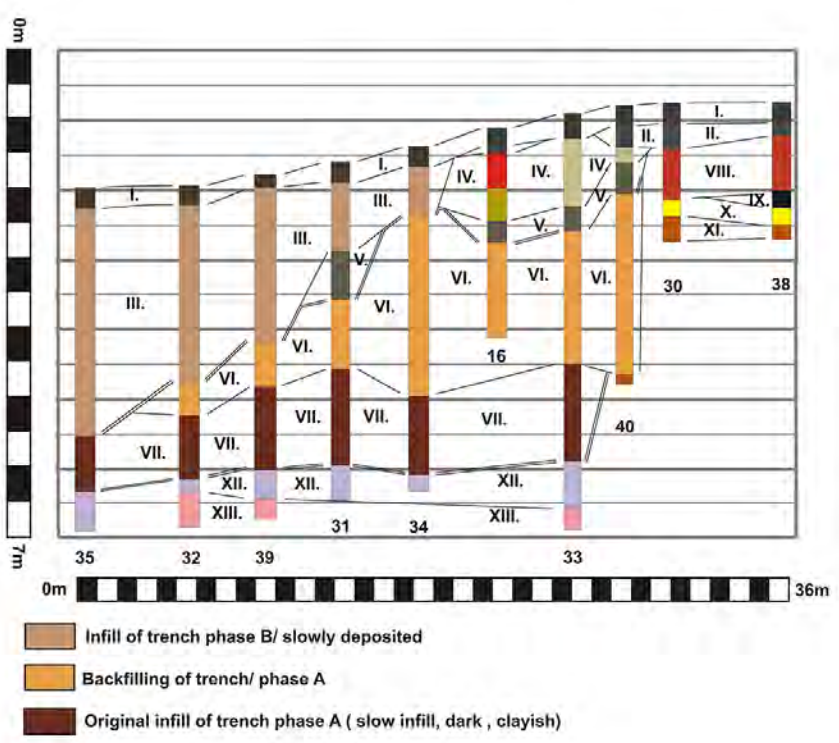


BORBAS 2018



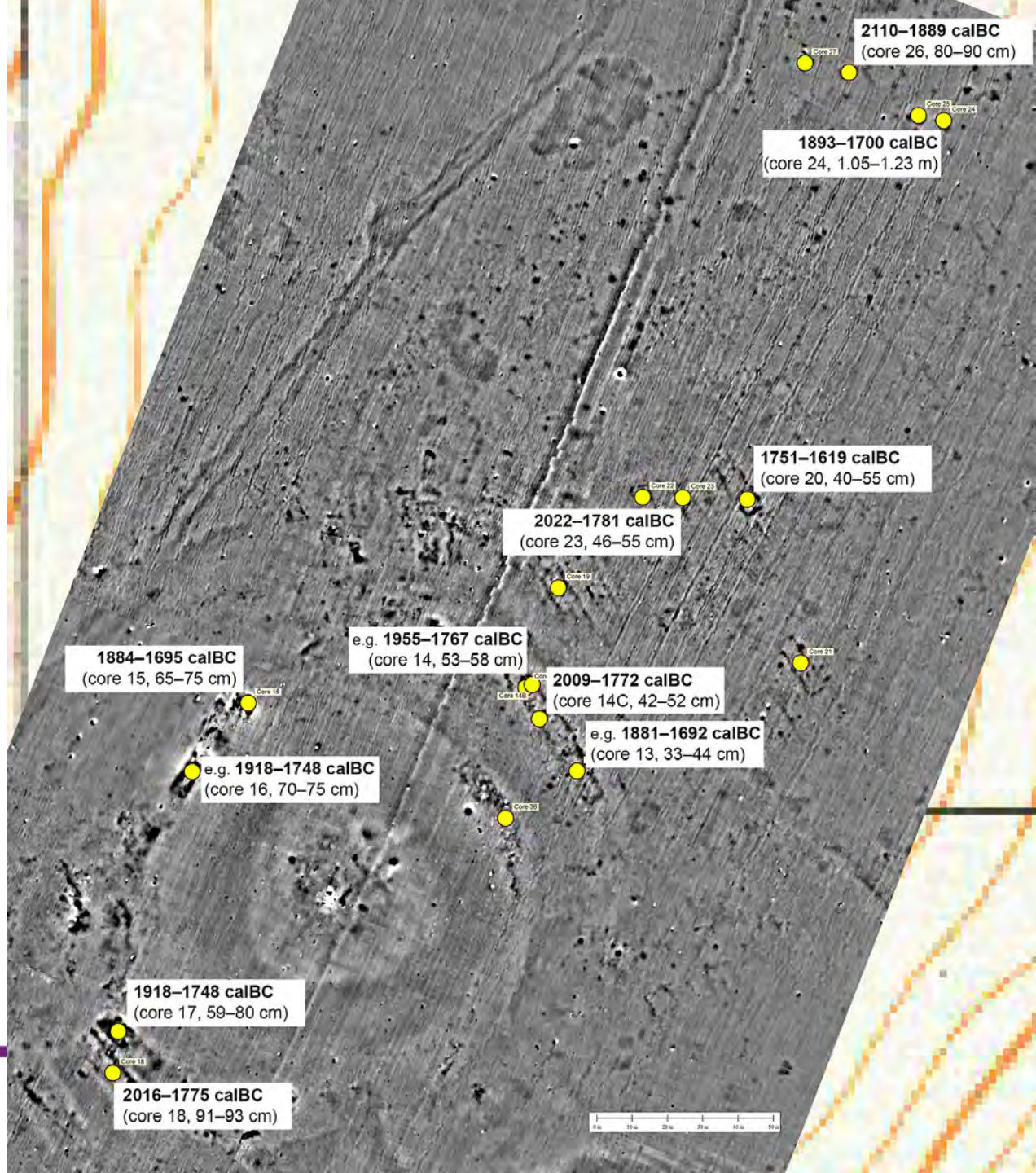
BORBAS 2018





► Emőd-Nagyhalom. Profile through the north-western section of the ditch and interpretation of the stratigraphy.

► C14 dates from various houses in the outer settlement of Emőd-Nagyhalom.



BORBAS 2018



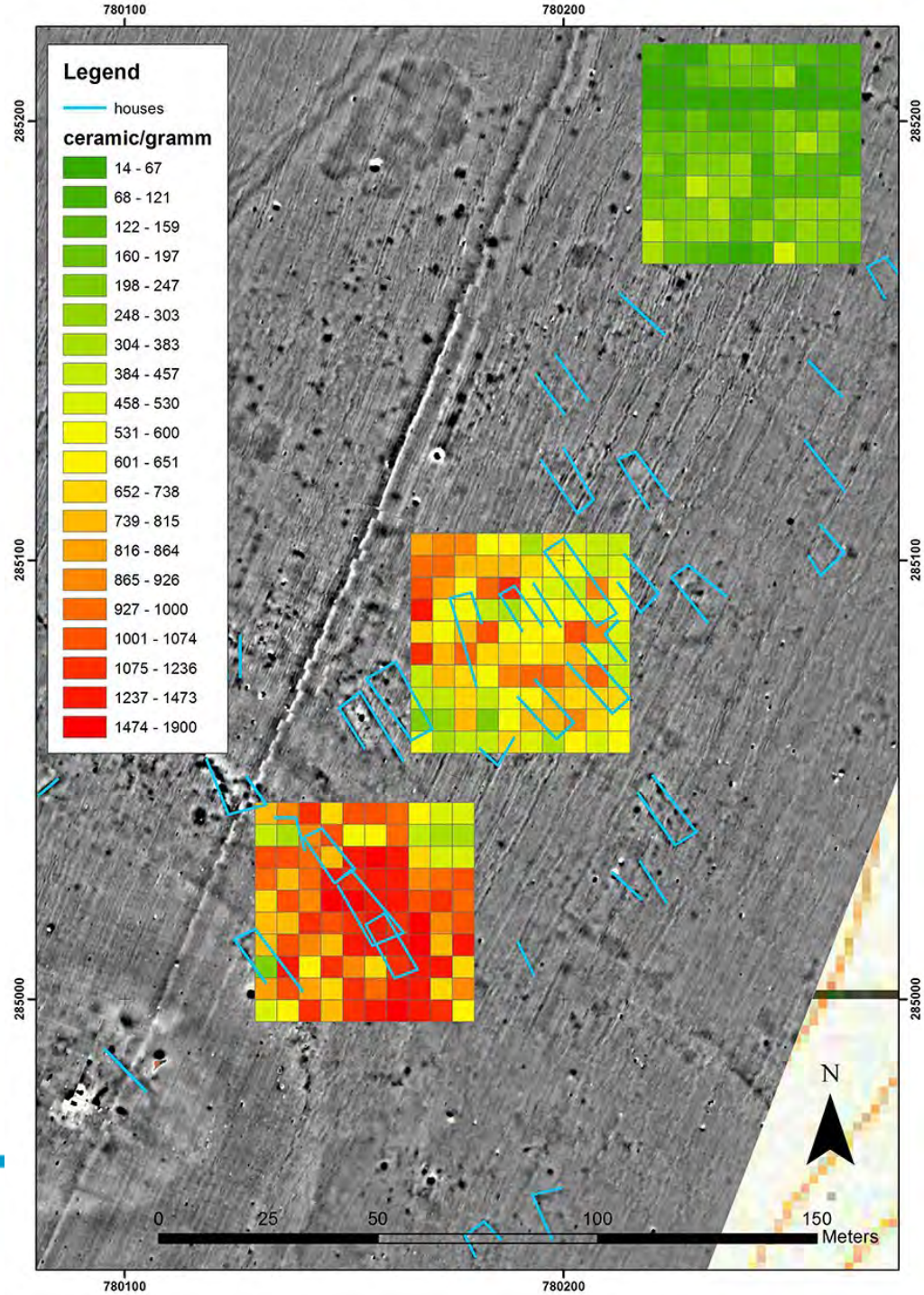
BORBAS 2018



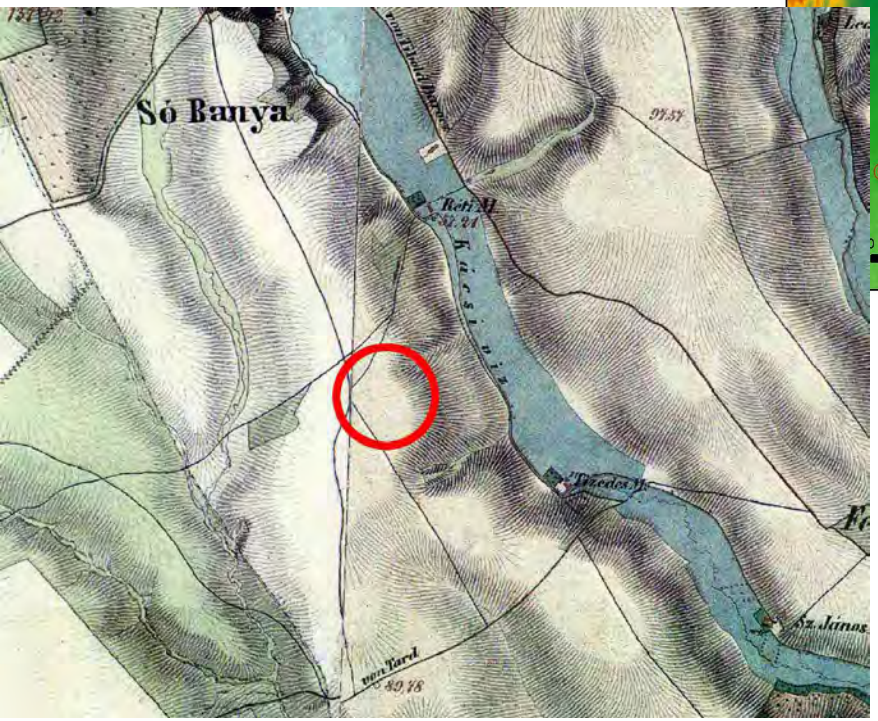


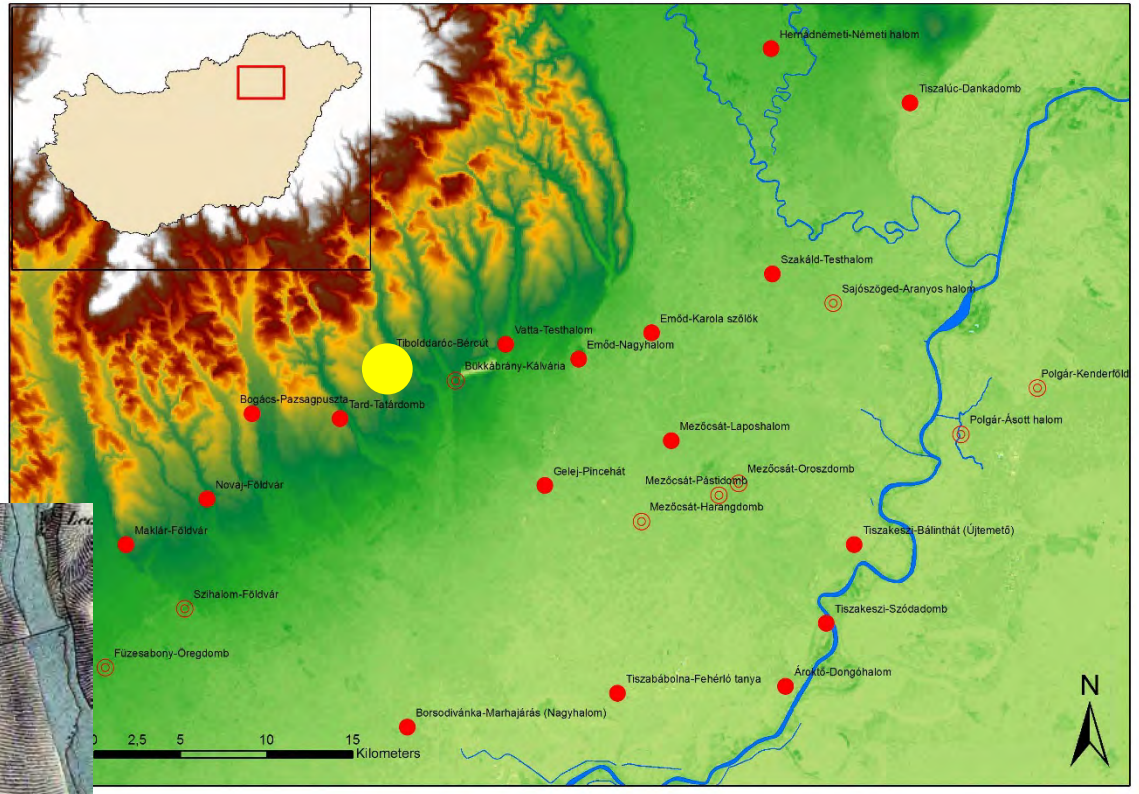
BORBAS 2018

► Emőd-Nagyhalom. Results of the surface survey 2018.



► Tibolddaróc-Bércút

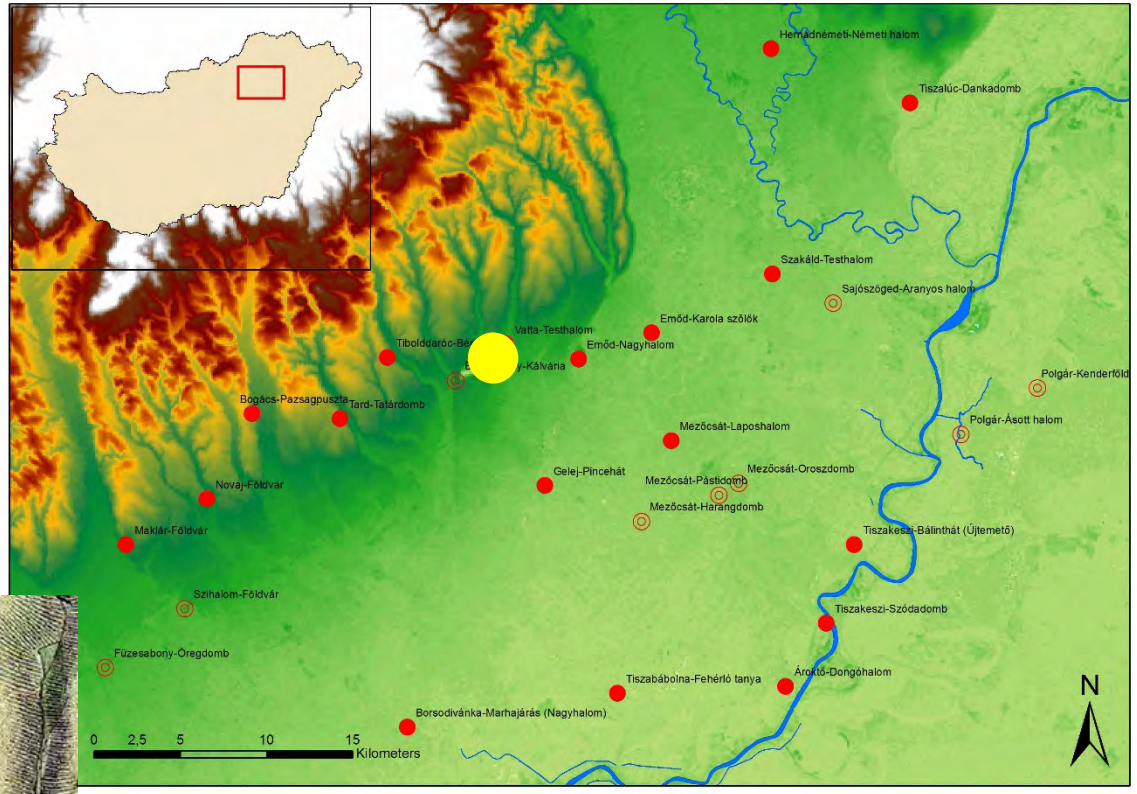






BORBAS 2018

► Vatta-Testhalom





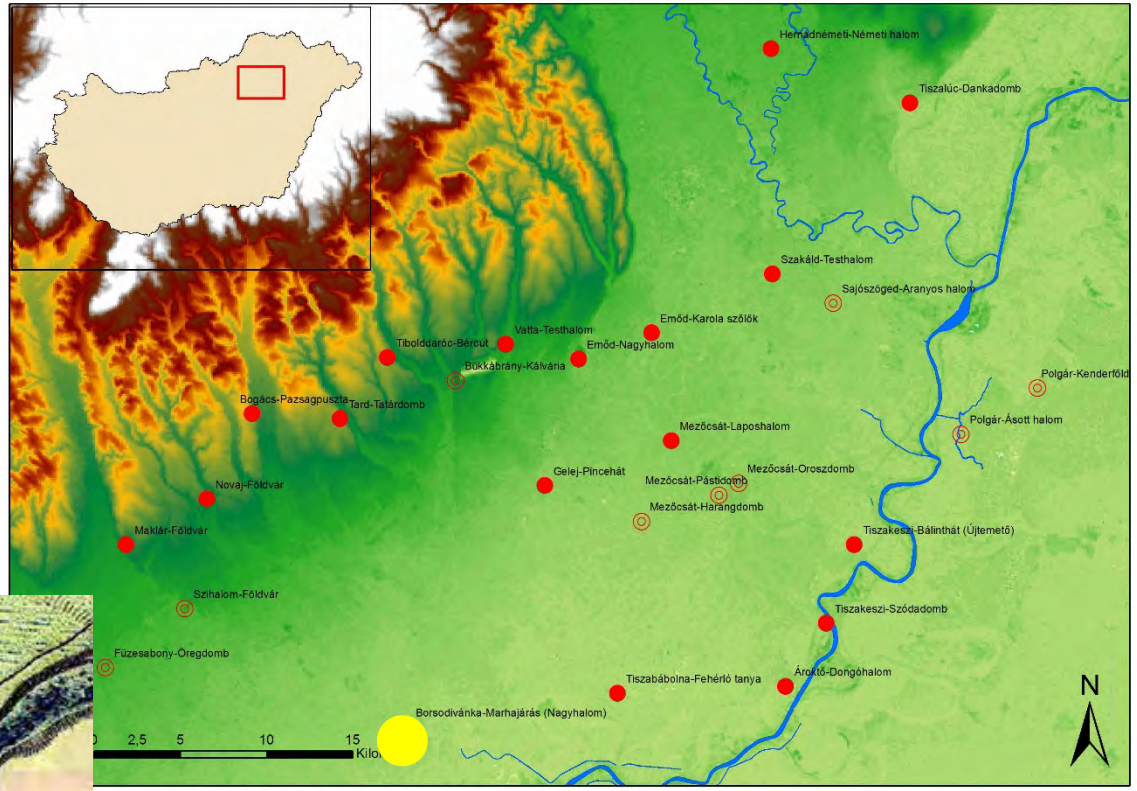


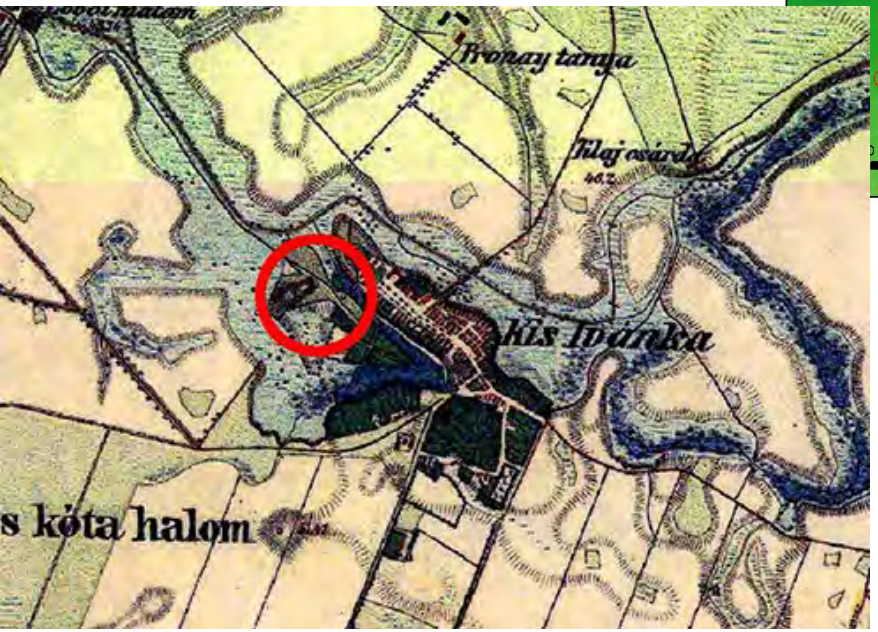


▲ ► Vatta-Testhalom.
Rescue excavation prior to the construction of drainage facilities of the nearby open cast mine.

BORBAS 2018

► Borsodivánka-Marhajárás (Nagyhalom)







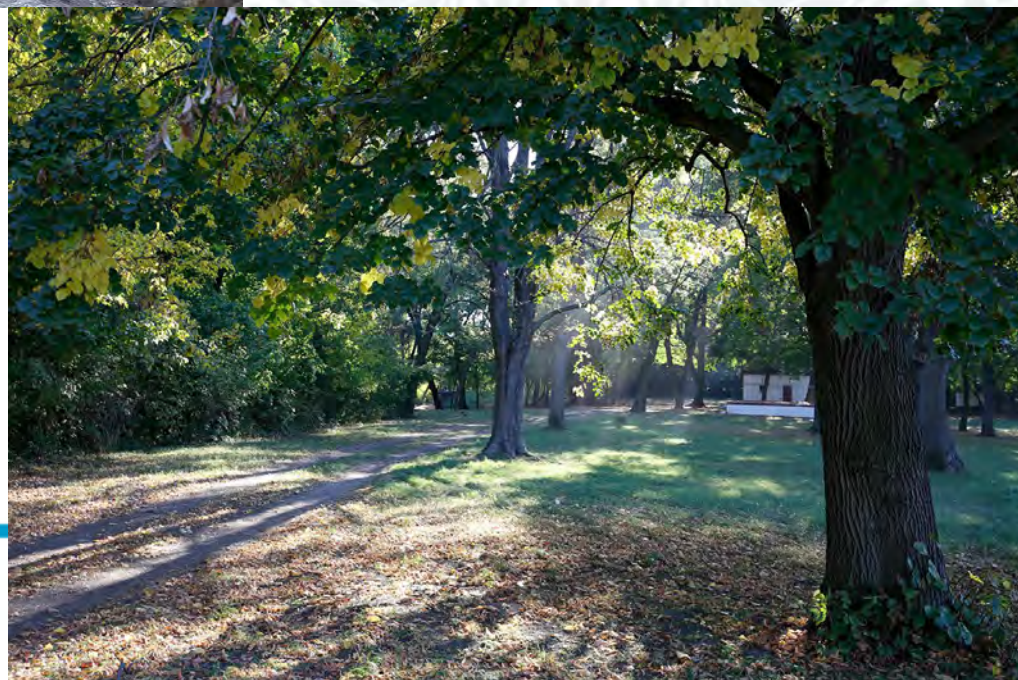
BORBAS 2018





BORBAS 2018





BORBAS 2018



BORBAS 2018





BORBAS 2018





BORBAS 2018



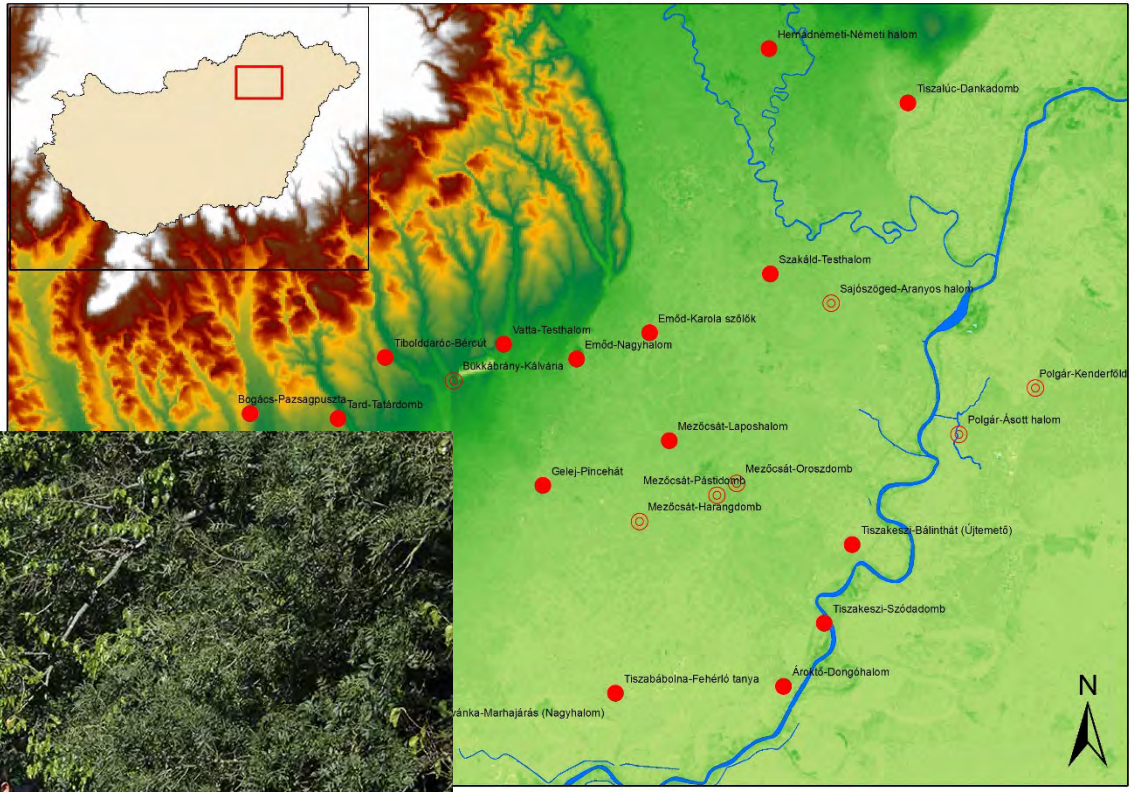
BORBAS 2018



BORBAS 2018

► Social Life on BORBAS Tells







▲ Conference ‘Settlement layouts, system and structure of the Otomani-Füzesabony Cultural Complex’ in Miskolc (7th–9th June 2018)


Fehérlő
csárda



BORBAS 2018

▲ An excursion to the rescue excavation of the Middle Bronze Age cemetery at Encs.





BORBAS 2018

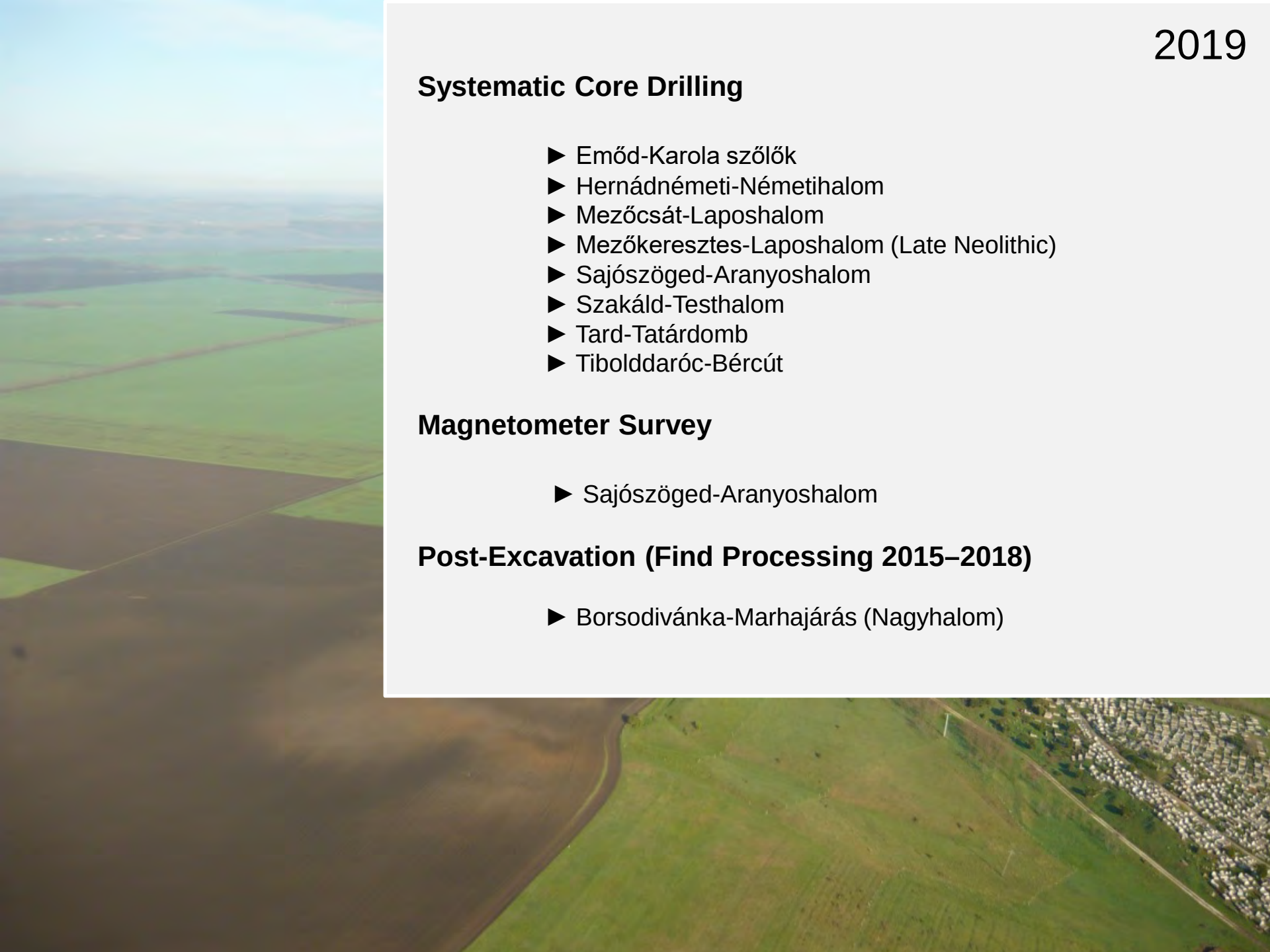


BORBAS 2018



BORBAS 2018

▲ Accomodation in Tiszabábolna.



2019

Systematic Core Drilling

- Emőd-Karola szőlők
- Hernádnémeti-Németihalom
- Mezőcsát-Laposhalom
- Mezőkeresztes-Laposhalom (Late Neolithic)
- Sajószöged-Aranyoshalom
- Szakáld-Testhalom
- Tard-Tatárdomb
- Tibolddaróc-Bércút

Magnetometer Survey

- Sajószöged-Aranyoshalom

Post-Excavation (Find Processing 2015–2018)

- Borsodivánka-Marhajárás (Nagyhalom)


UNIVERSITÄTSFORSCHUNGEN
ZUR PRÄHISTORISCHEN ARCHÄOLOGIE
Aus dem Institut für Ur- und Frühgeschichte der Universität zu Köln
Band 345
Beyond Divides –
The Otomani-Füzesabony Phenomenon
Current Approaches to Settlement and Burial in the
North-eastern Carpathian Basin and Adjacent Areas
edited by
Klára P. Fischl
Tobias L. Kienlin
2019
VERLAG DR. RUDOLF HABELT GMBH, BONN

BORBAS 2019

Geländepraktikum auf bronzezeitlichen Tellsiedlungen in Nordost-Ungarn (BORBAS)



Sa., 10. August bis
So., 8. September 2019

BORBAS (Borsod Region Bronze Age Settlement) ist ein Kooperationsprojekt des Instituts für Ur- und Frühgeschichte der Universität zu Köln und der Universität Miskolc in Nordost-Ungarn, in dessen Rahmen seit 2012 die bronzezeitlichen Tellsiedlungen der Borsod-Ebene zwischen Bükk-Gebirge und Theiss untersucht werden.

Nach dem weitgehenden Abschluss der geomagnetischen Prospektion führen wir neben der Ausgrabung auf dem Siedlungshügel von Borsodivanka seit 2017 ein systematisches Bohrprogramm auf den zuvor prospektierten Siedlungshügeln durch, um das chronologische und funktionale Verhältnis der verschiedenen Siedlungsteile – Tell und Außensiedlung – zu klären.

Im Rahmen unserer diesjährigen Sommerkampagne bieten wir während des oben genannten Zeitraums die Möglichkeit zur Teilnahme an der Fundbearbeitung des Materials aus Borsodivanka und den Bohrungen auf verschiedenen Fundstellen der Borsod-Ebene.

Weitere Informationen zu unserem Projekt entnehmen Sie bitte unseren Publikationen auf academia.edu.

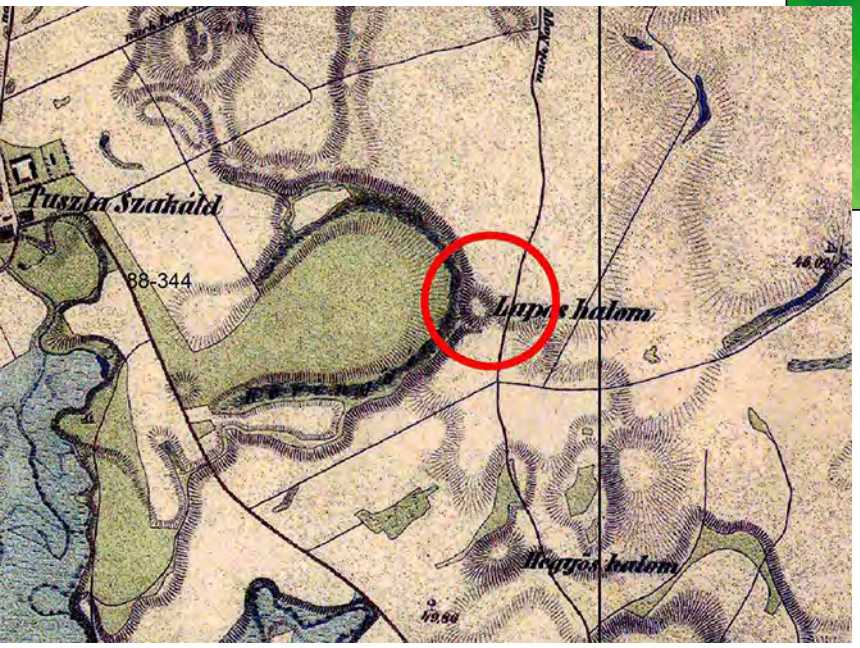
Die Anzahl der Teilnehmer ist beschränkt. Interessenten bitten wir, sich per e-mail unter Angabe ihrer Semesterzahl und Geländeerfahrung mit uns in Verbindung zu setzen. Die Anreise, Unterkunft und Verpflegung an Ort und Stelle sind umsonst. Mit der Teilnahme an der Kampagne ist der Erwerb eines Praktikumsnachweises (B.A./M.A.) verbunden.

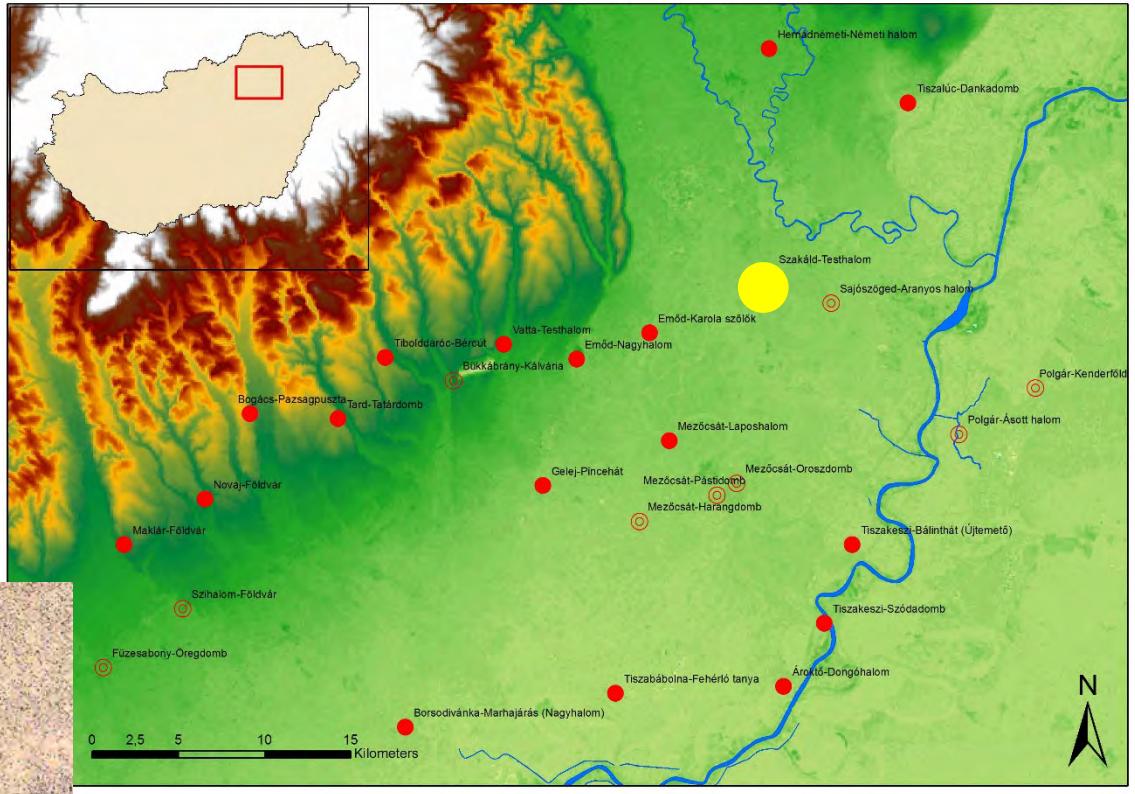
BORBAS 2019

Prof. Dr. Tobias L. Kienlin – Dr. Klára P. Fischl

tkienlin@uni-koeln.de – https://uni-koeln.academia.edu/TobiasKienlin

► Szakáld-Testhalom







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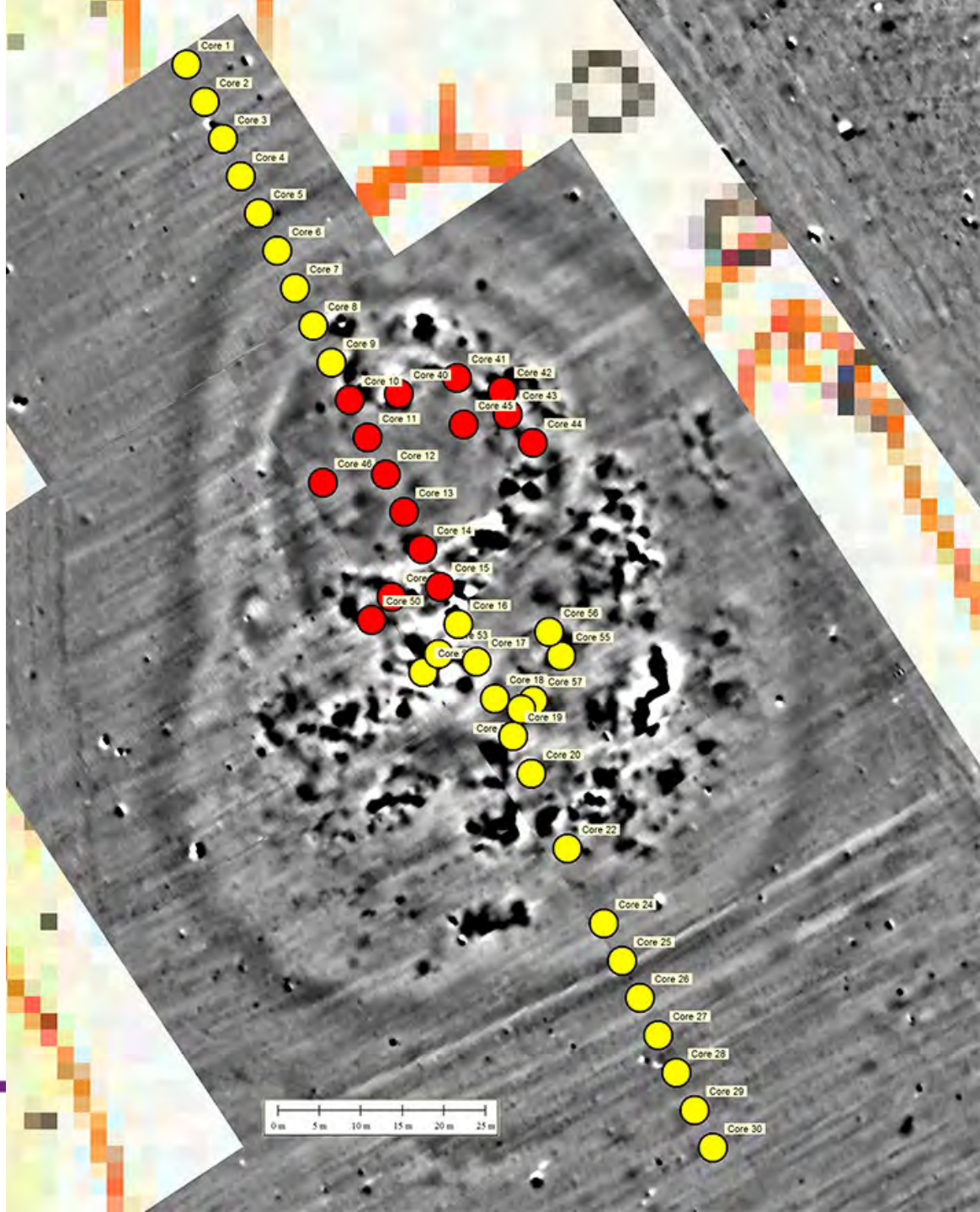


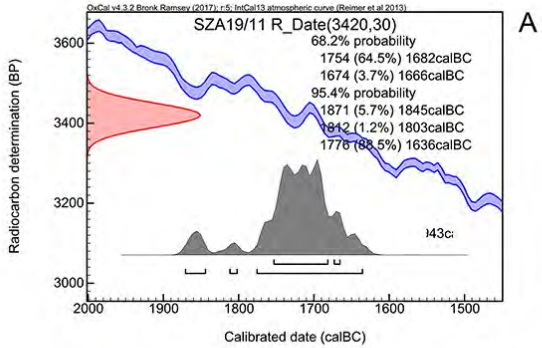
BORBAS 2019

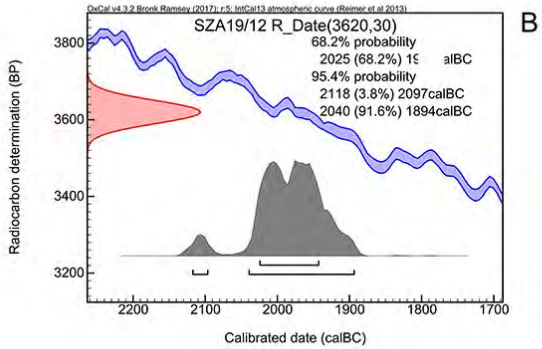


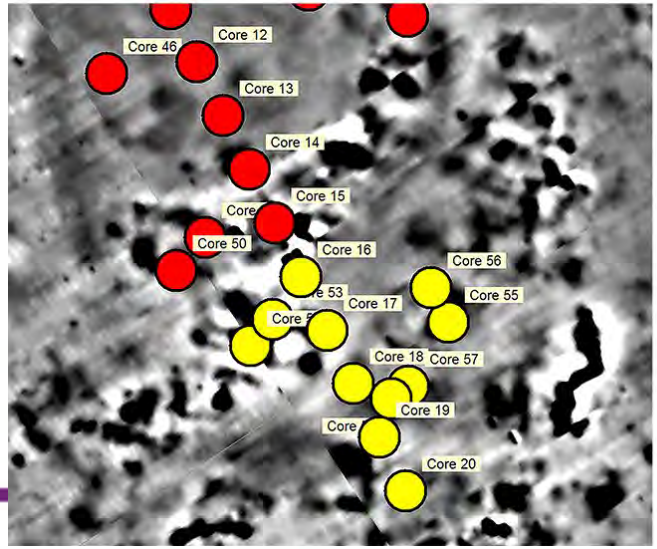
BORBAS 2019

► Szakáld-Testhalom.
The location of the cores in the inner tell part of the site.







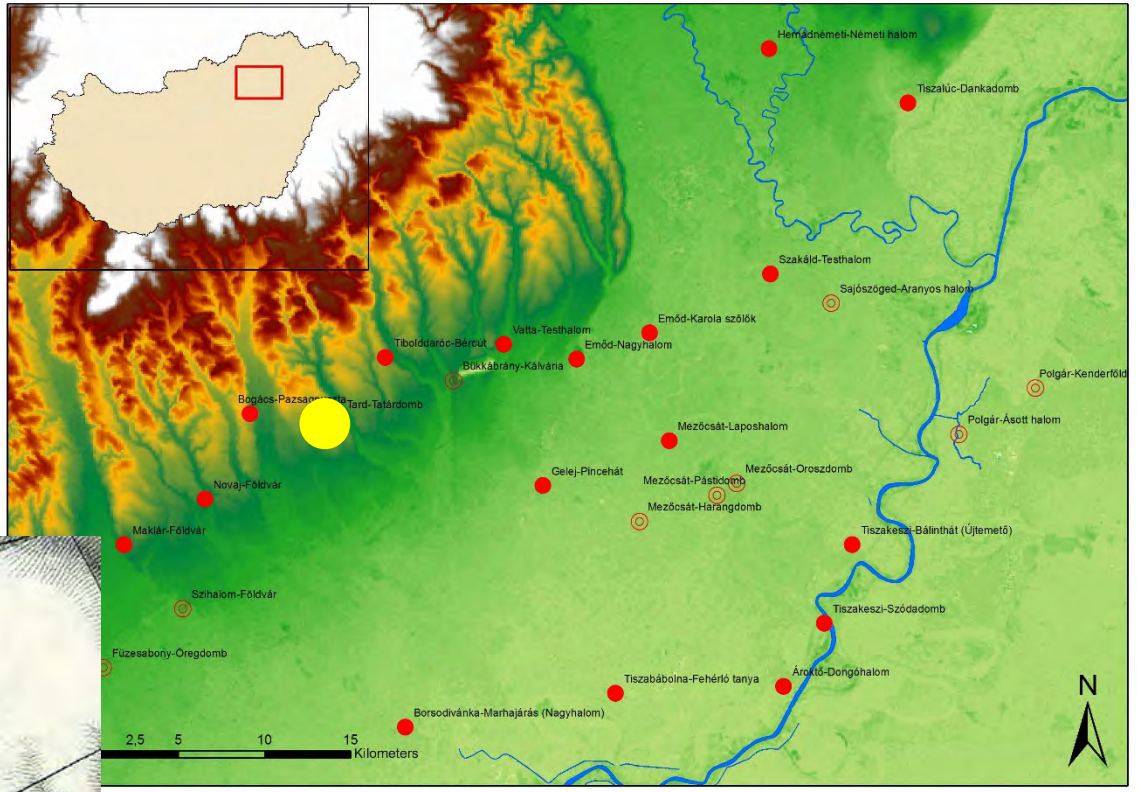


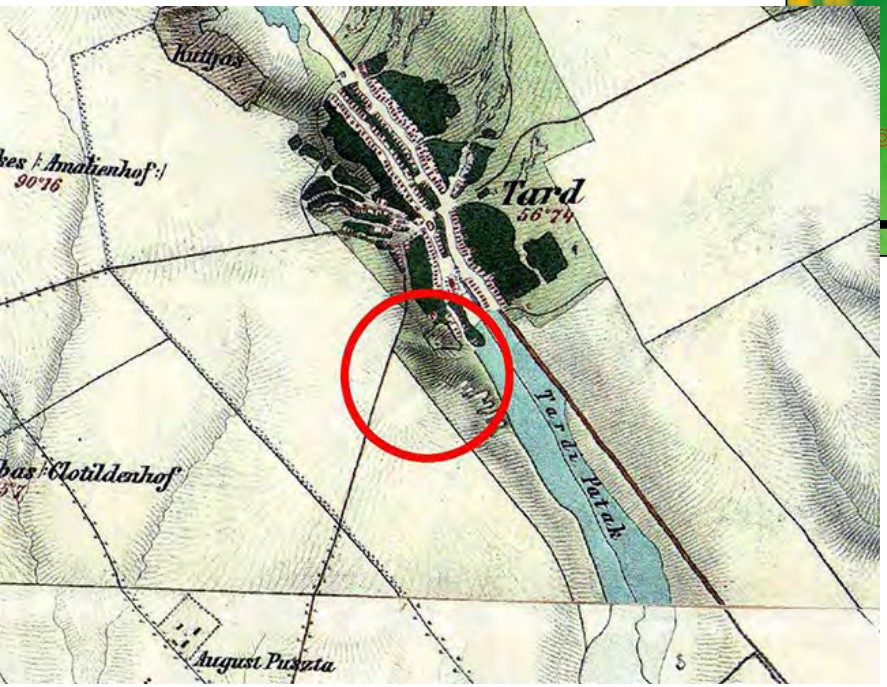


► Szakáld-Testhalom.
Two radiocarbon dates from various depths of core 15.

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► Tard-Tatárdomb









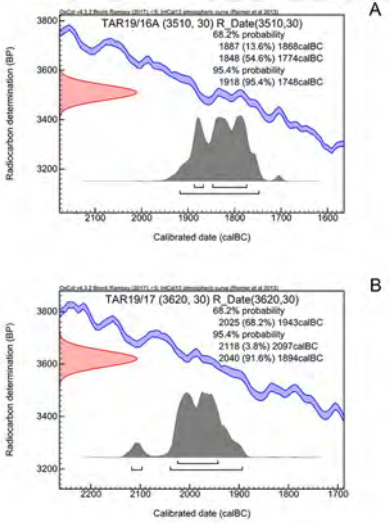




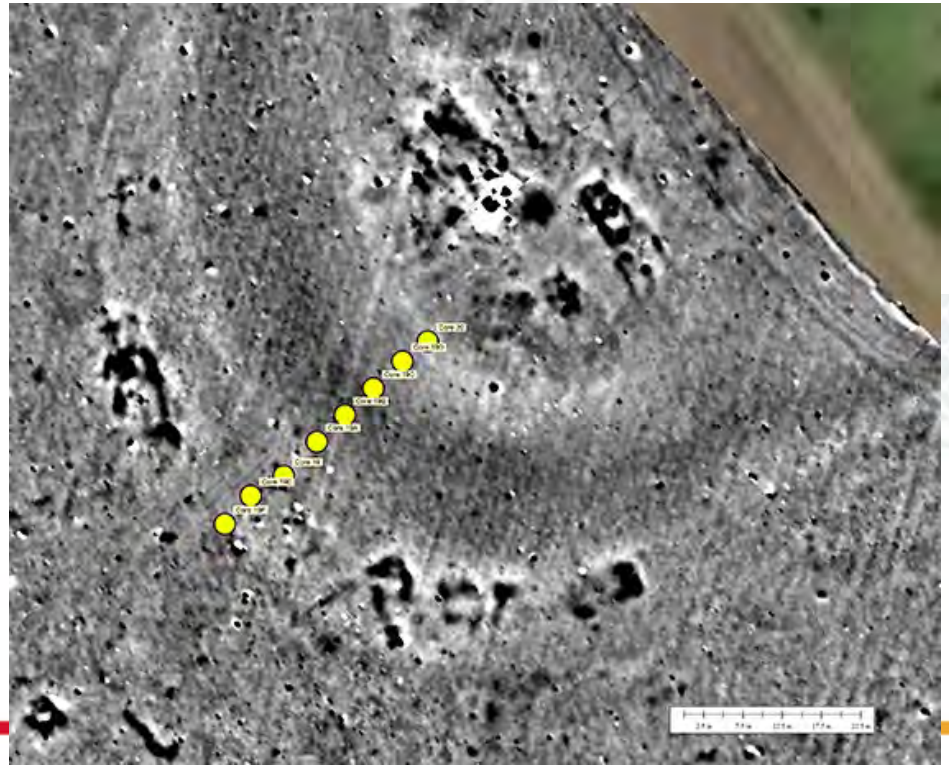


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► Tard-Tatárdomb. The stratigraphic sequence in core 19 in the south-western section of the main enclosure and two radiocarbon dates obtained from it.





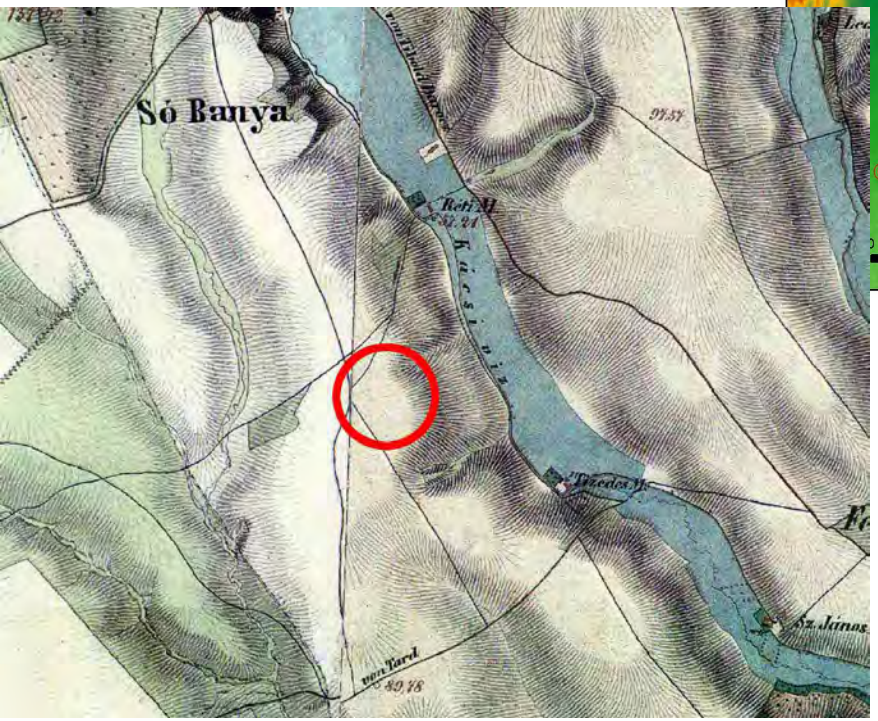


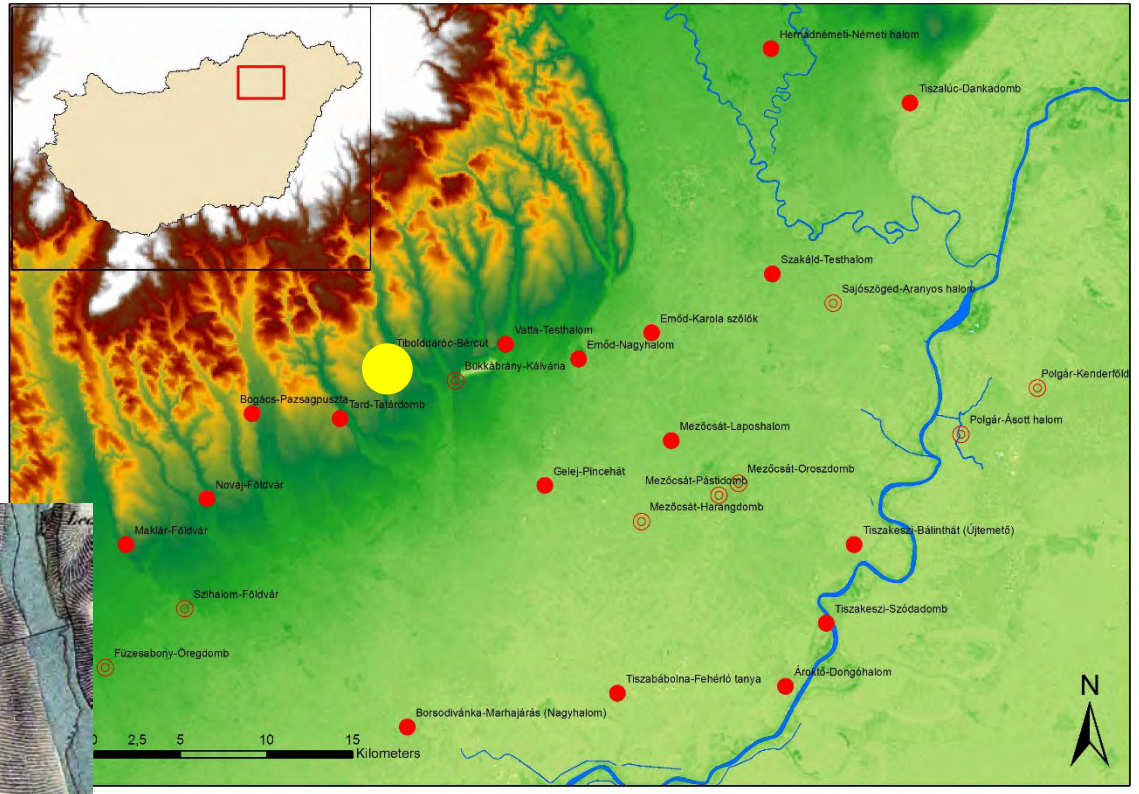
BORBAS 2019

► Tard-Tatárdomb. Radiocarbon dates from houses in the outer settlement mapped on the magnetometry of the site.



► Tibolddaróc-Bércút







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BORBAS 2019

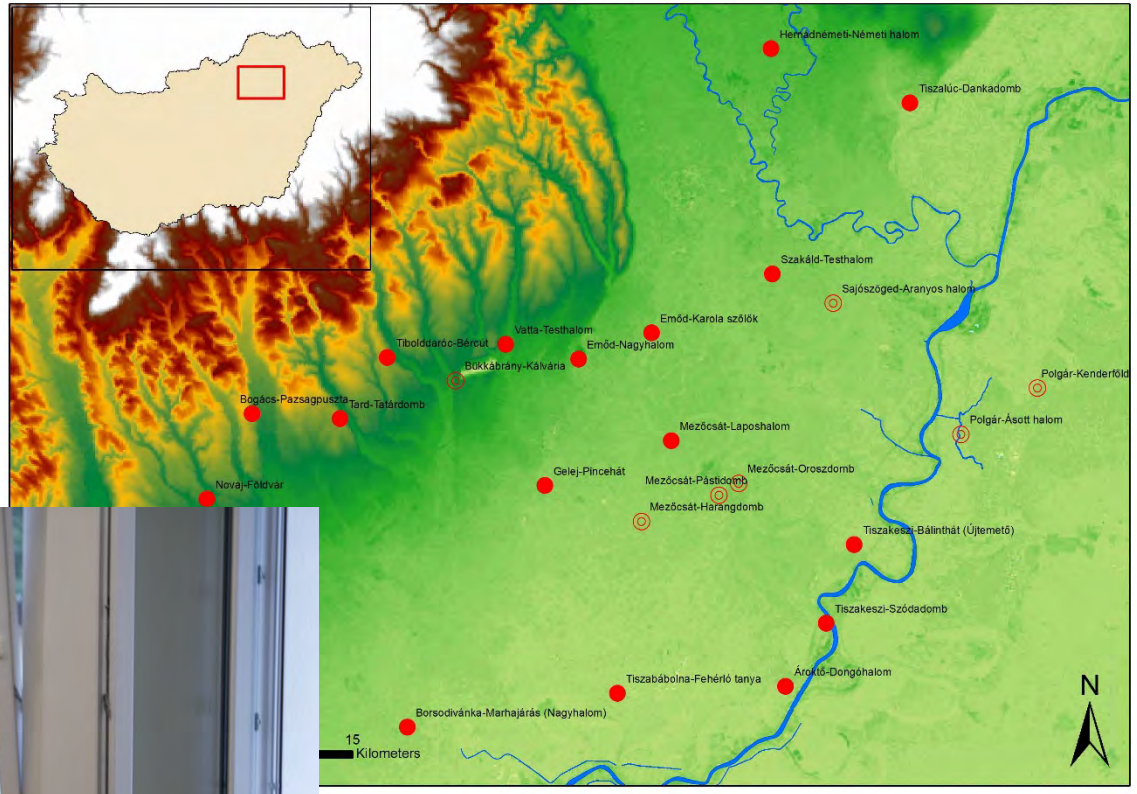


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► Social Life on BORBAS Tells





BORBAS 2019





BORBAS 2019



BORBAS 2019





BORBAS 2019



BORBAS 2019

2020

Excavation

► Borsodivánka-Marhajárás (Nagyhalom)



Bronze Age Tell Communities in Context

An exploration into culture, society, and the study of European prehistory – Part 2

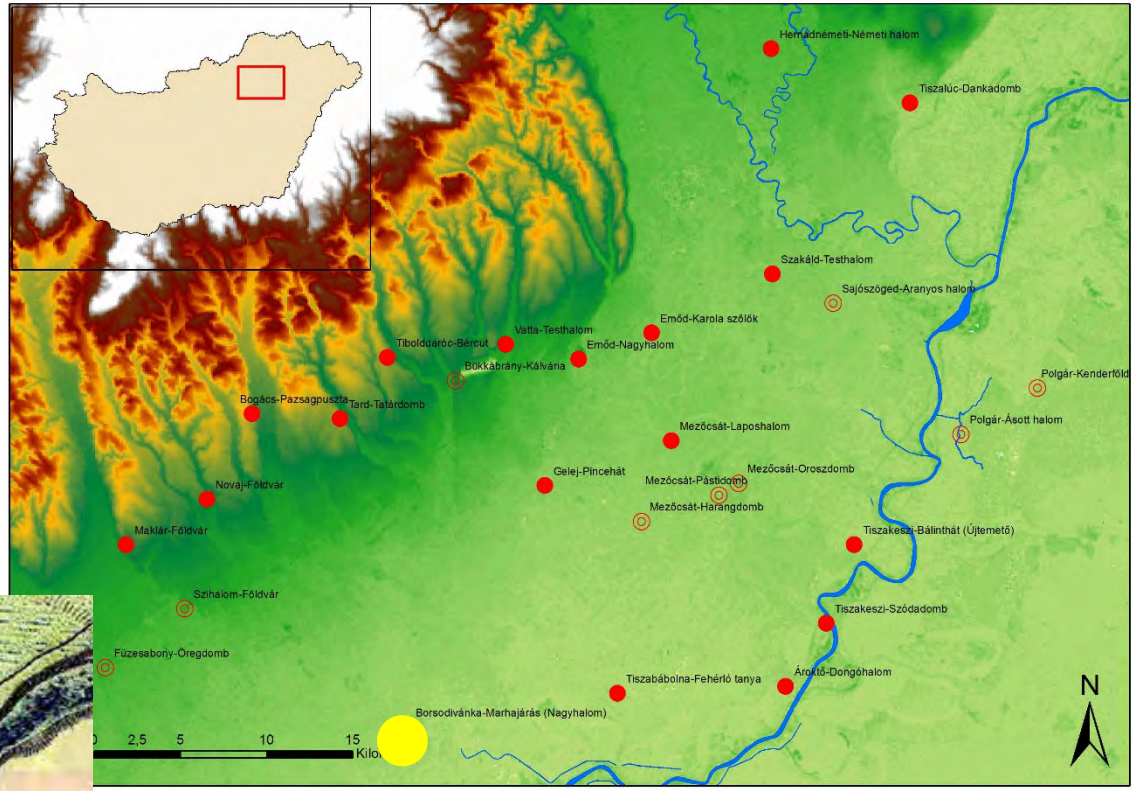
Tobias L. Kienlin

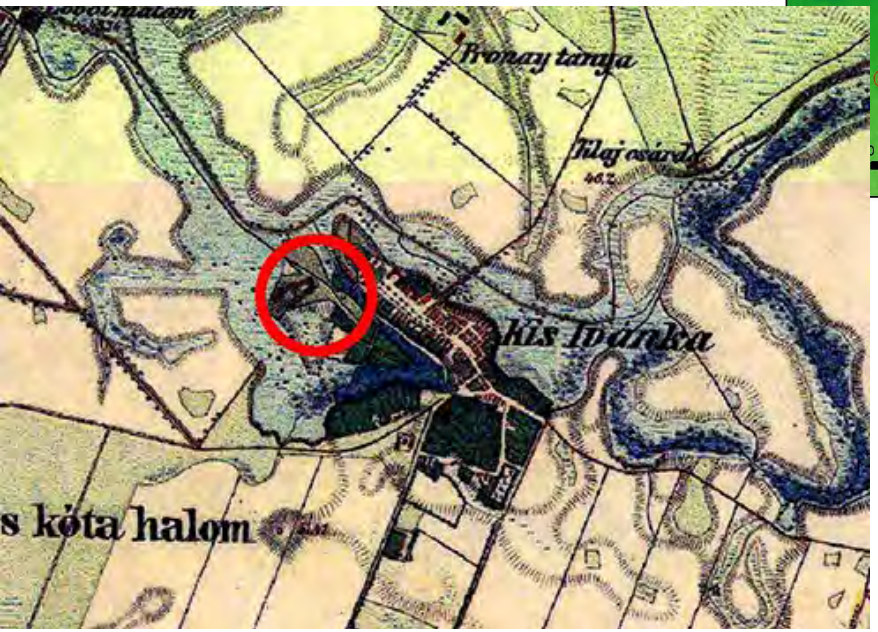




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► Borsodivánka-Marhajárás (Nagyhalom)







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S55
S7


S54
S55
S7.1
S56
S7.2
S19



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Archäobotanisch-mikromorphologische Untersuchungen

Im Verlauf der Grabungsarbeiten fielen deutlich geschichtete, weißlich-graue Ablagerungen auf, die auch im Bereich des möglichen Gebäudebefundes vorhanden sind (Abb. 6). Sie verlaufen unterhalb und oberhalb der „Abfallschicht" (Abb. 3). Um zu klären, woraus diese Lagen bestehen, wurden mikromorphologische Proben genommen (Abb. 6.2).

Erste Ergebnisse zeigen, dass es sich bei den „weißen Lagen" um dicht geschichtete Phytolithe von Poaceaen handelt, die offensichtlich von verschiedenen Gräsern stammen. Vergleichbare Befunde („white layers") kennt man auch aus Tellsiedlungen im Nahen Osten (Albert et al. 2008) – aus dem europäischen Raum sind bis heute kaum dokumentiert.

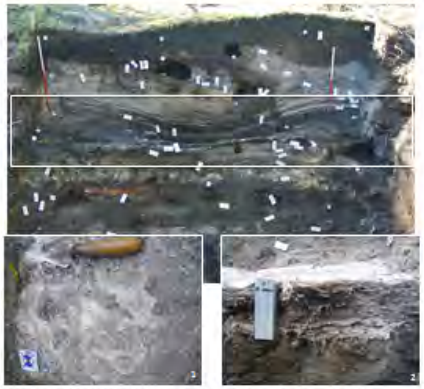


Abb. 6: Weißlich-graue Ablagerungen im Bereich es möglichen Gebäudebefundes (weißer Kasten oben)



Zusammensetzung der „weißen Lagen"

A REM-Aufnahme der im Verband vorhandenen dendritischen Phytolithen

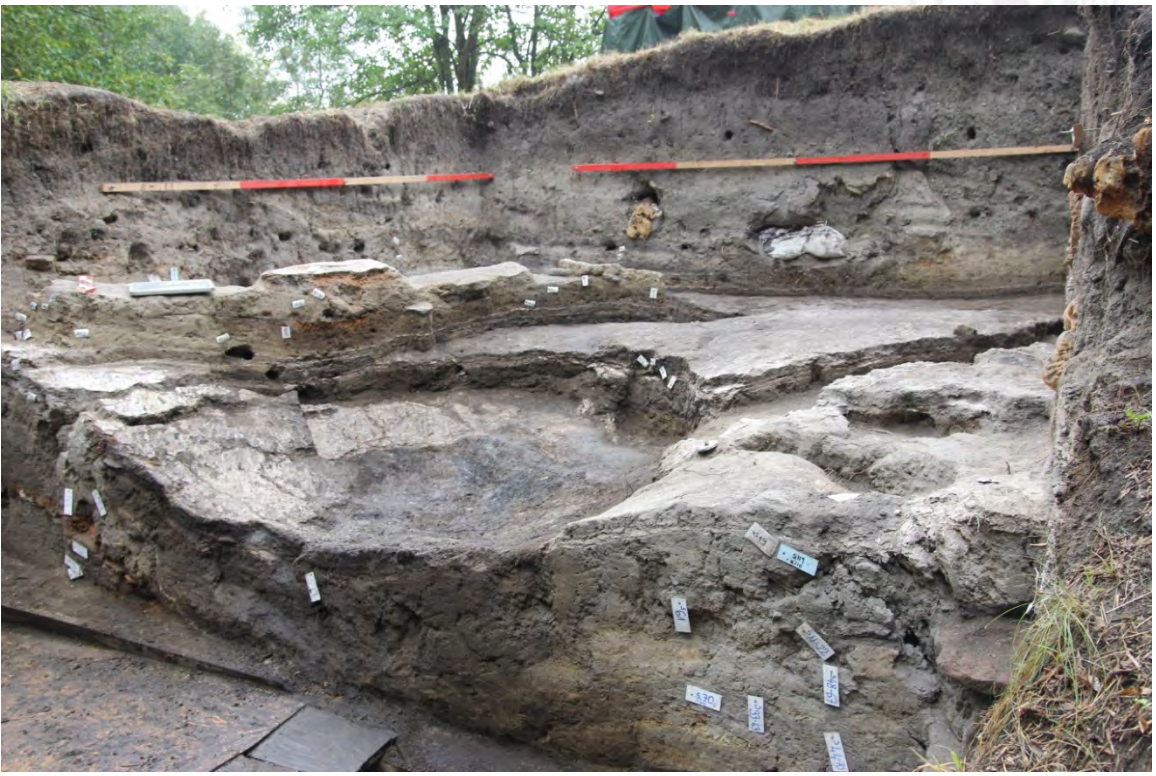
B Dünnschliffaufnahme eines silifizierten Epidermisfragmentes, mit dendritischen Phytolithen

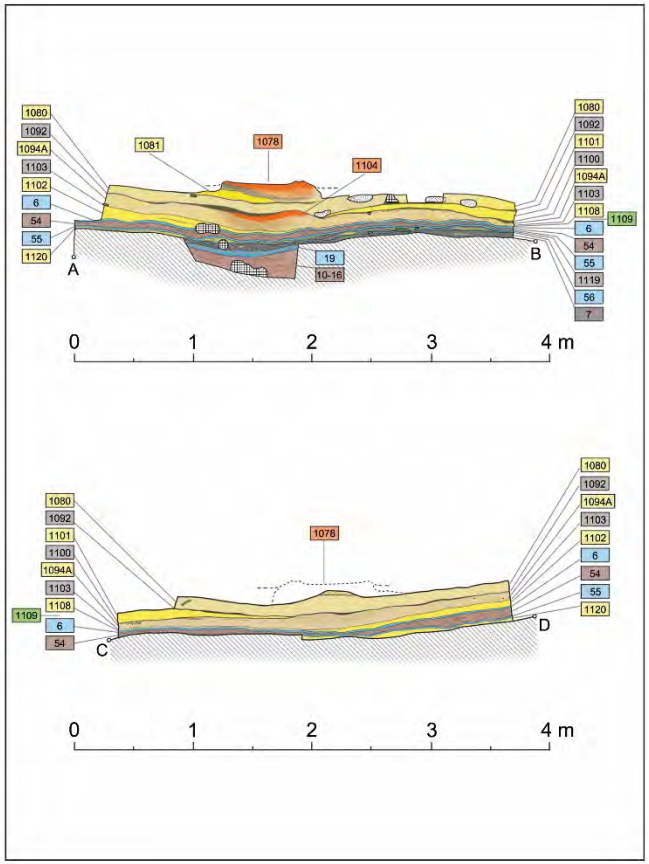
C Dünnschliffaufnahme der dicht gelagerten Phytolithen unterschiedlicher Poaceaen





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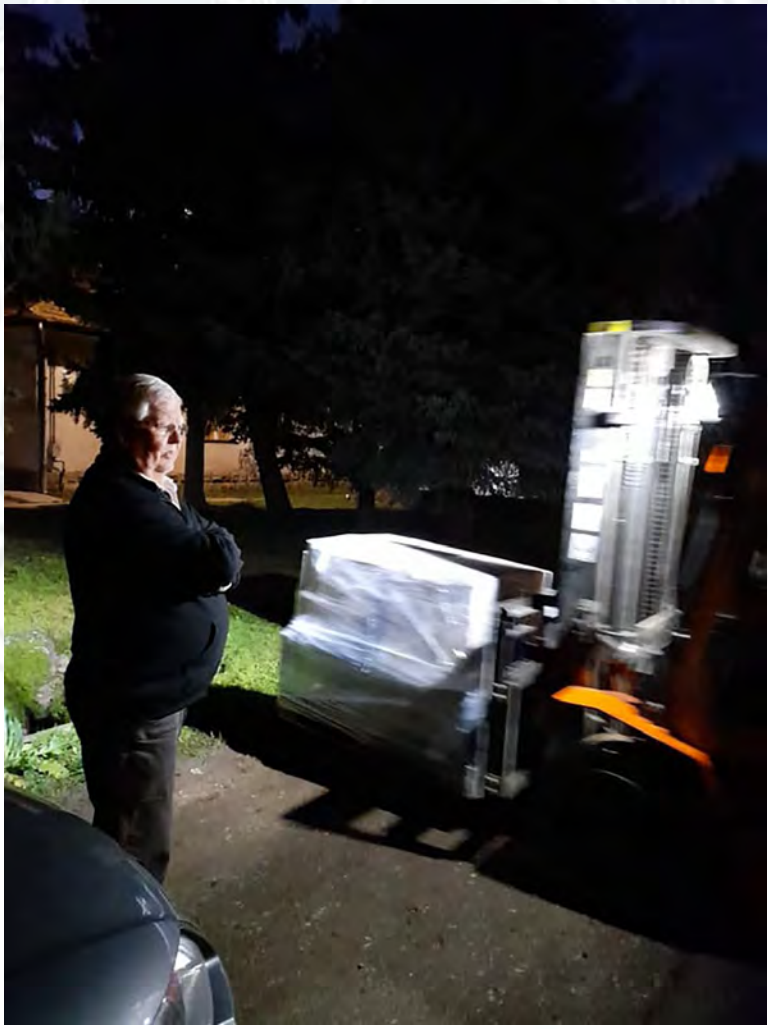

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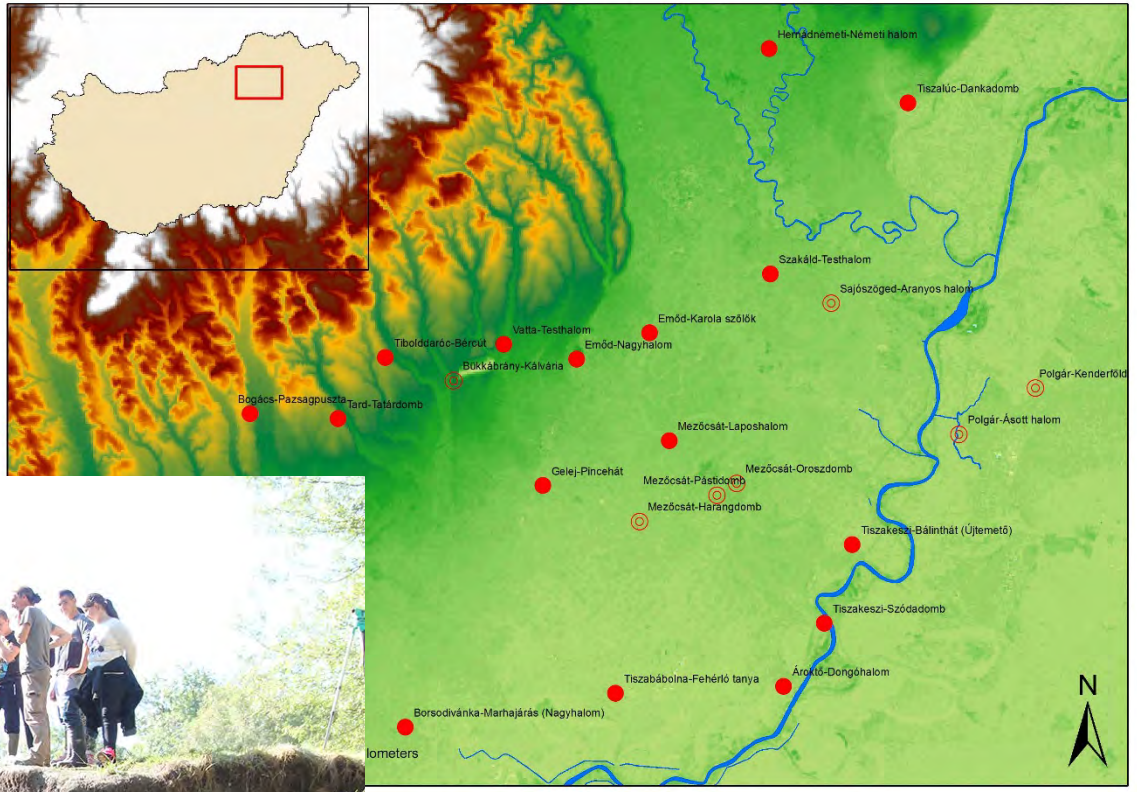




▲ ► Transport of soil samples and pottery to Tübingen and Köln for flotation and drawing

► Social Life on BORBAS Tells









▲ ► Bronze Age friends and colleagues at Borsodivánka

BORBAS 2020





▲ BORBAS 2020 on youtube:

https://youtu.be/0209VelUSCc

BORBAS 2020



2021

Systematic Core Drilling

- Maklár-Baglyashalom
- Novaj-Földvar
- Bükkábrány-Kálvária
- Gelej-Pincehát

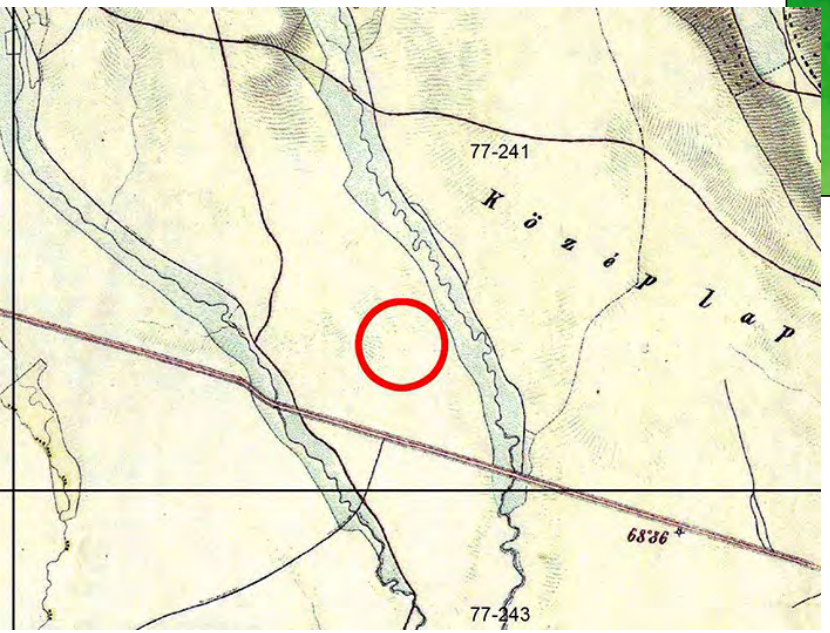
Magnetometer Survey

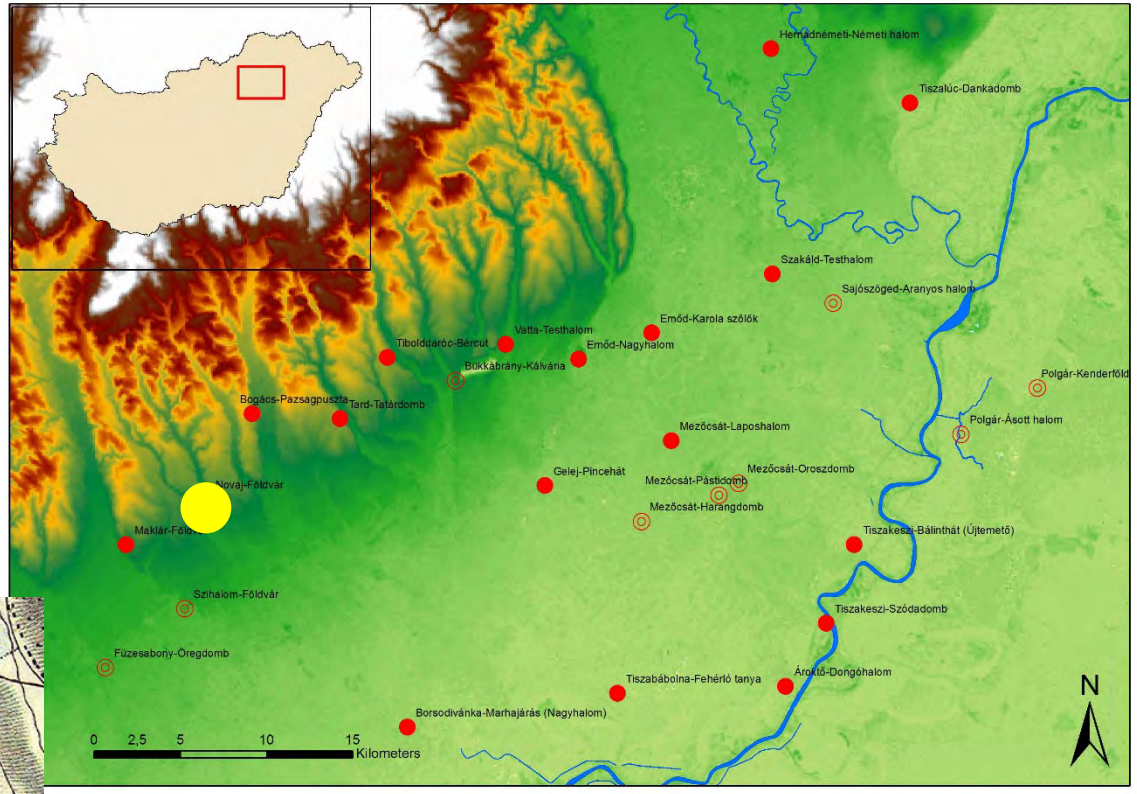
- Bükkábrány-Kálvária
- Gesztely-Hernádkak
- Vatta-Testhalom

Excavation

- Borsodivánka-Marhajárás (Nagyhalom)

► Novaj-Földvár









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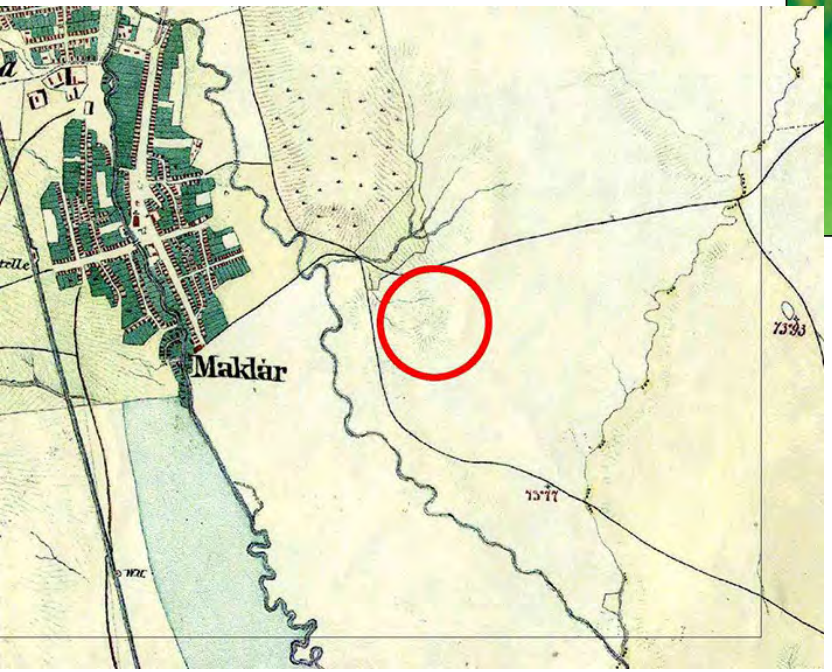

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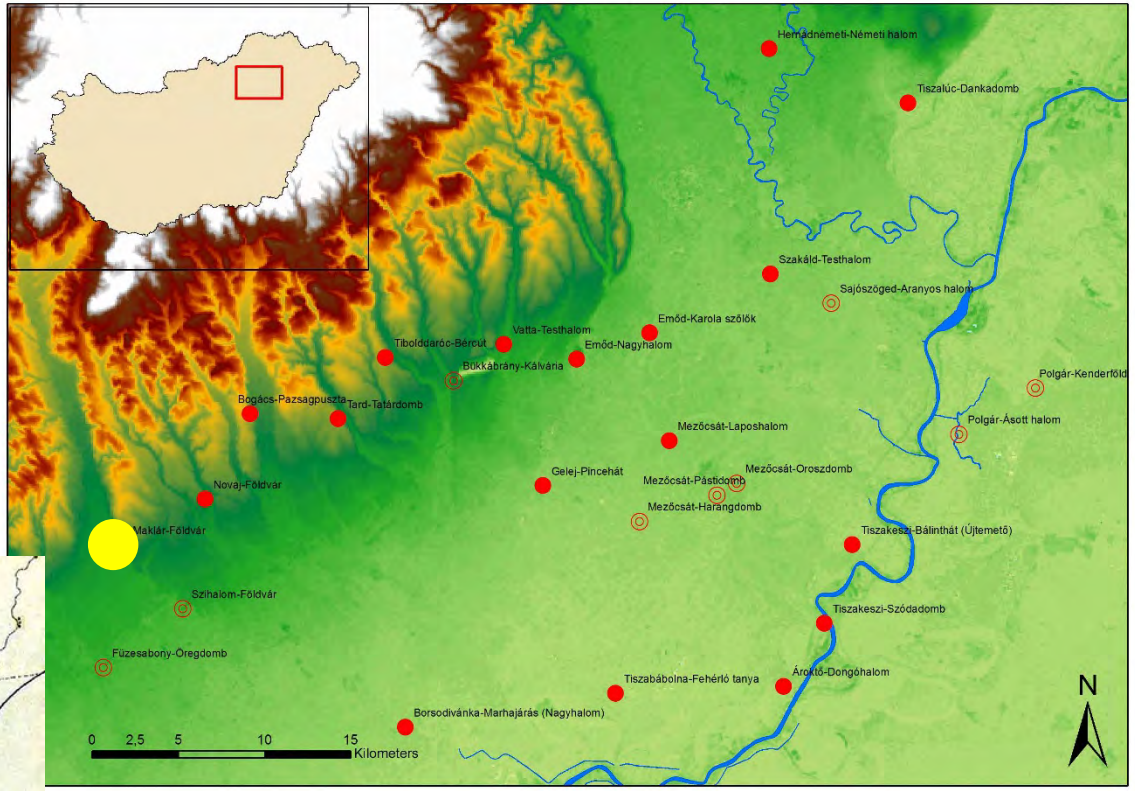




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► Maklár-Baglyashalom





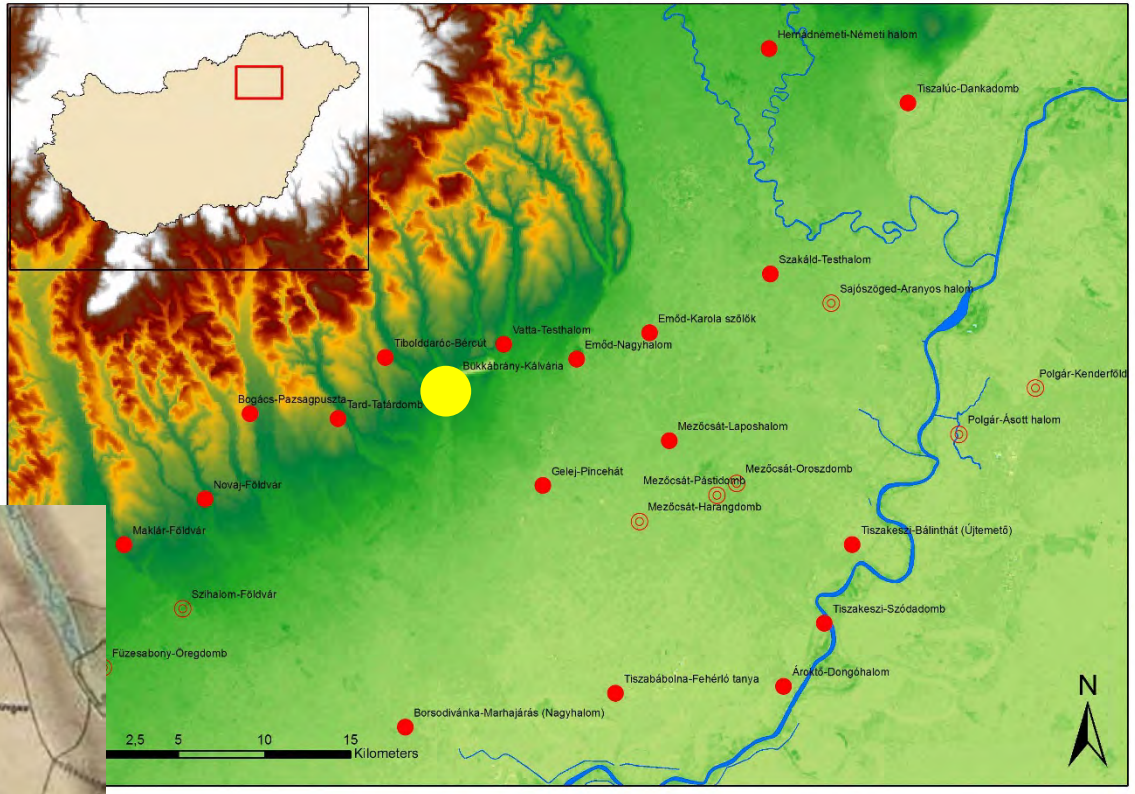


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► Bükkábrány-Kalvaria

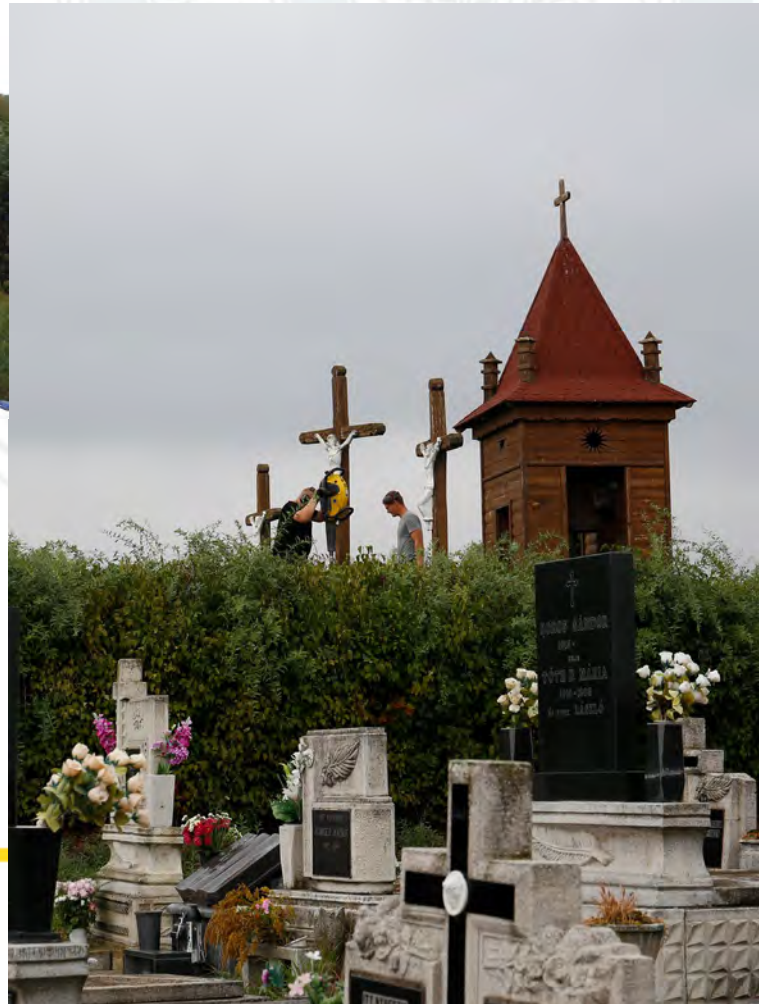






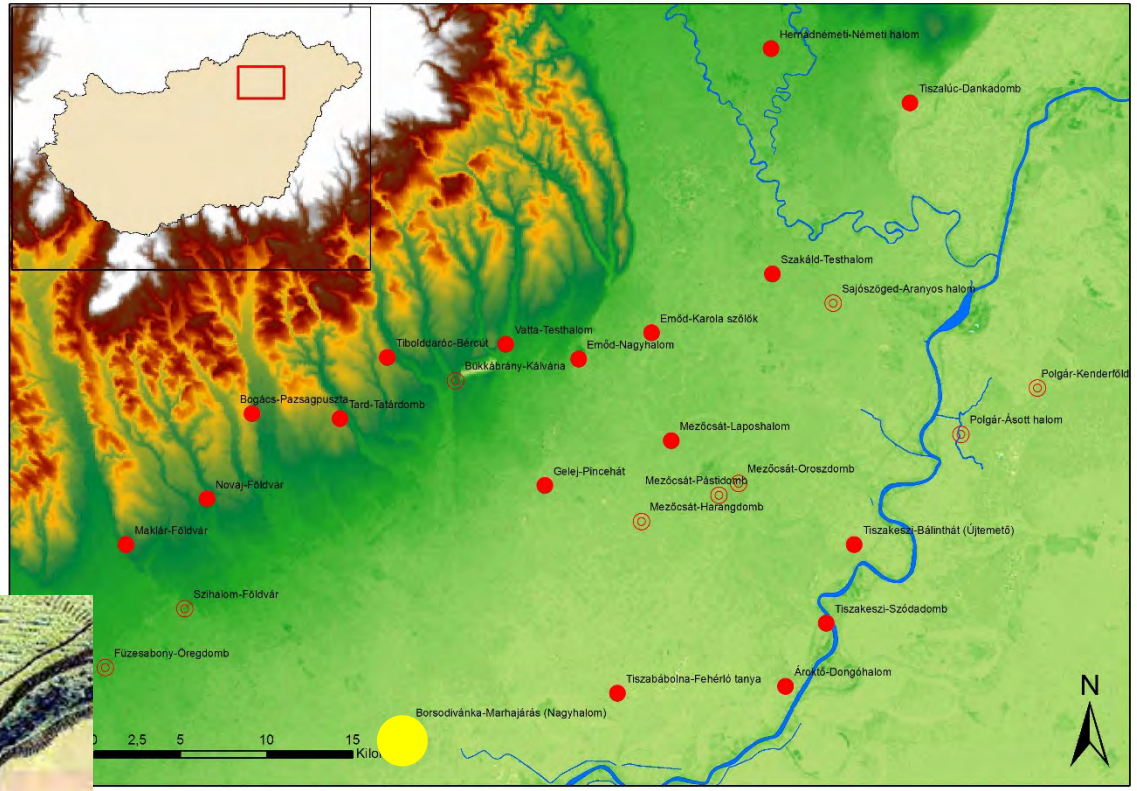
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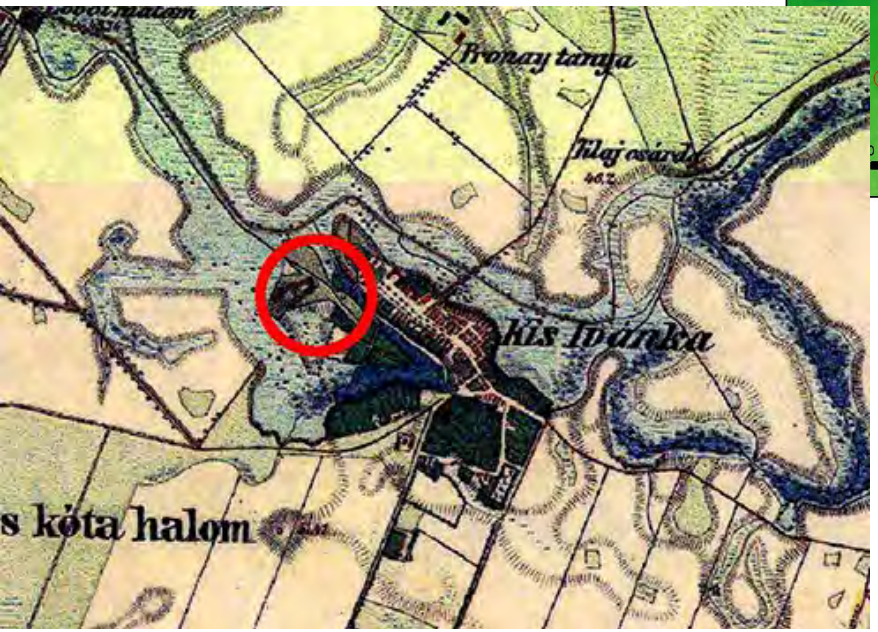




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► Borsodivánka-Marhajárás (Nagyhalom)







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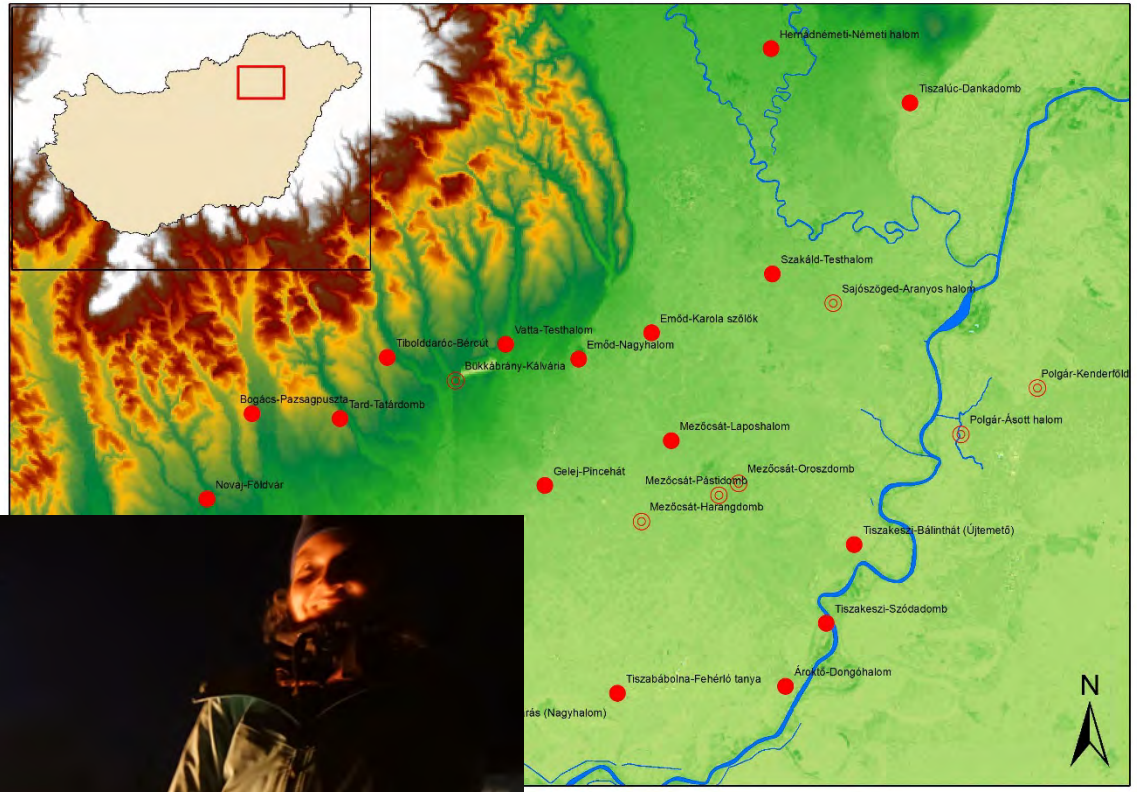
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► Social Life on BORBAS Tells





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▲ Accomodation in Bükkábrány.



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▲ ► Tour of the new museum of Bükkábrány.

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▲ An excursion to the Late Neolithic site of Vésztő-Mágor.



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▲ Tour of the museum of Nyíregyháza.



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LIQUI MOLY
KUPFERPASTE
Copper Paste
Pasta ramata
Pasta de cobre
Für thermisch hochbelastete Verbindungen.
For connections placed under high thermal loads.
Per giunti sottoposti ad altissime sollecitazioni
Para conexiones sometidas a altas temperaturas
Para uniões sujeitas a grandes cargas térmicas.



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2022

Systematic Core Drilling

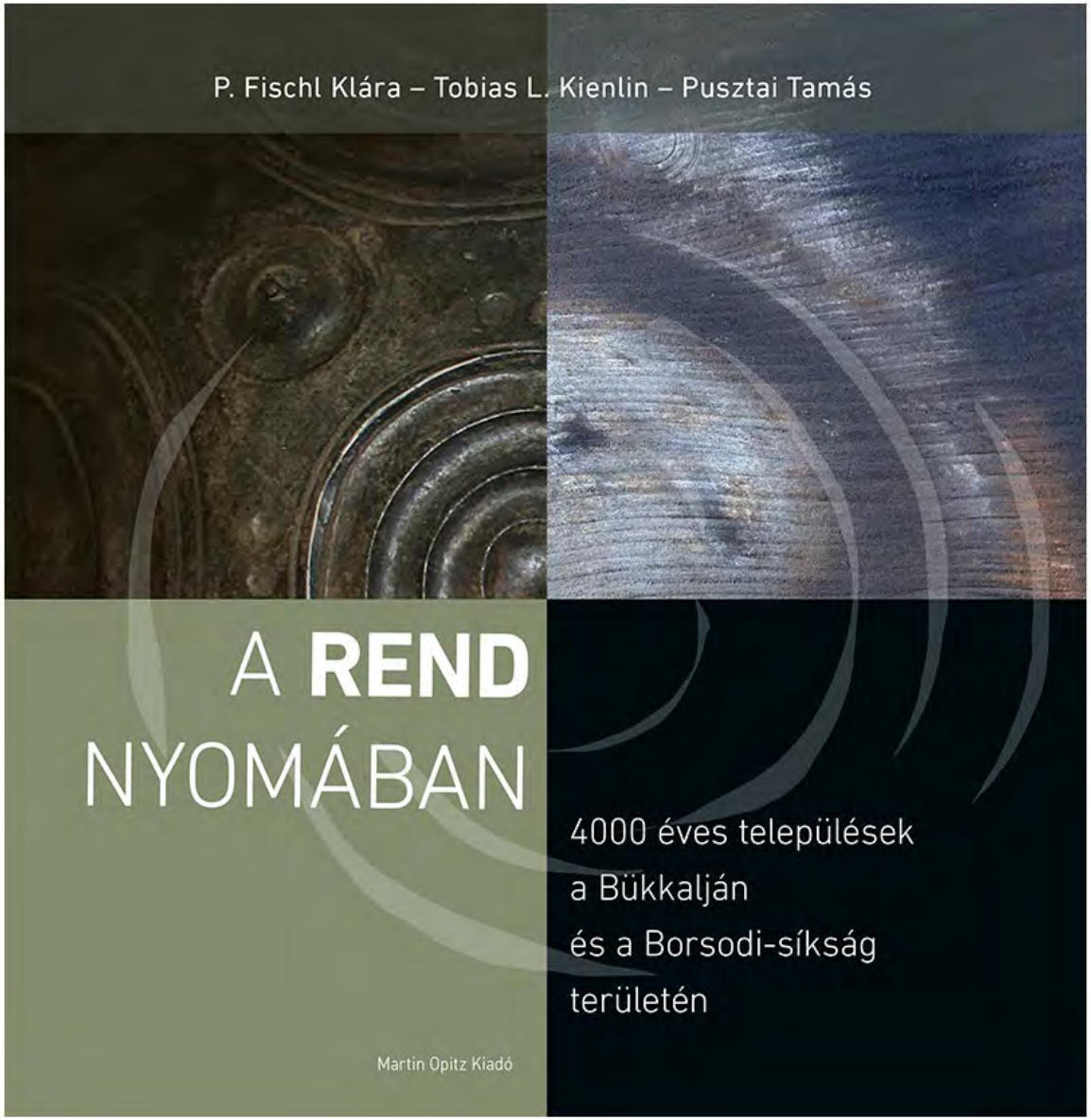
- Bükkábrány-Kálvária
- Mezőkövesd-Bosnyákdomb
- Vatta-Testhalom

Magnetometer Survey

- Mezőkövesd-Bosnyákdomb
- Vatta-Testhalom

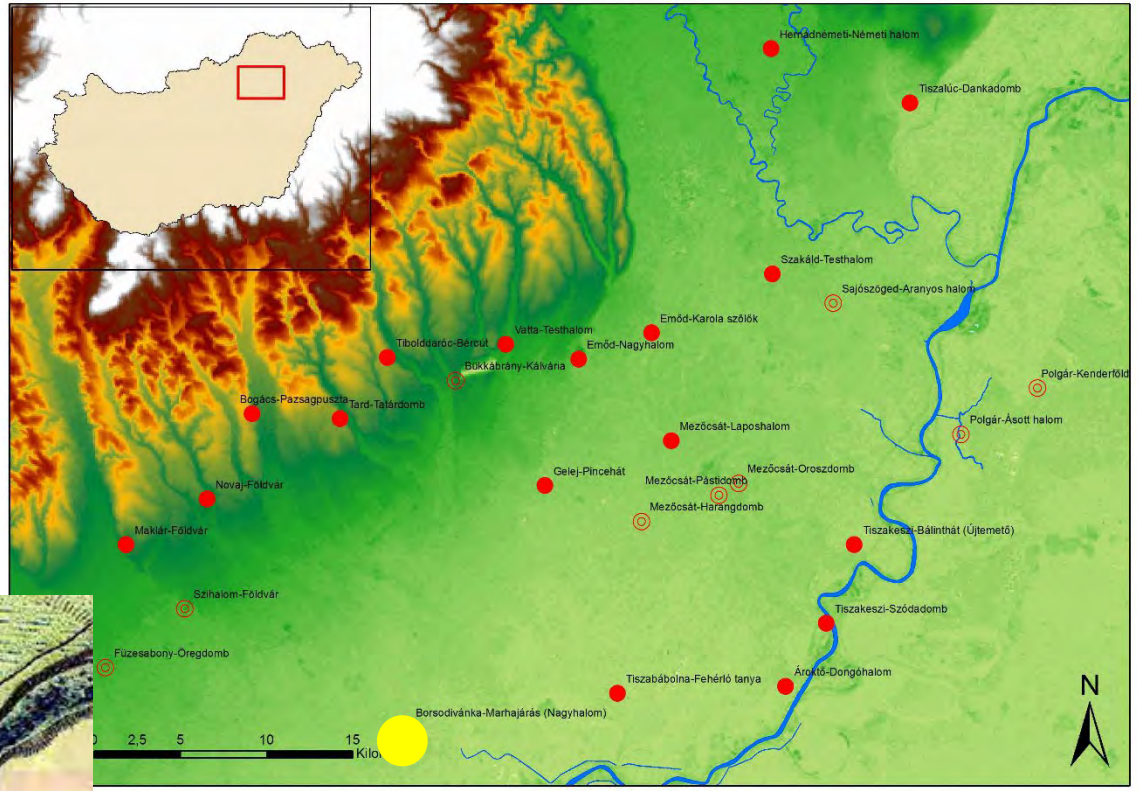
Excavation

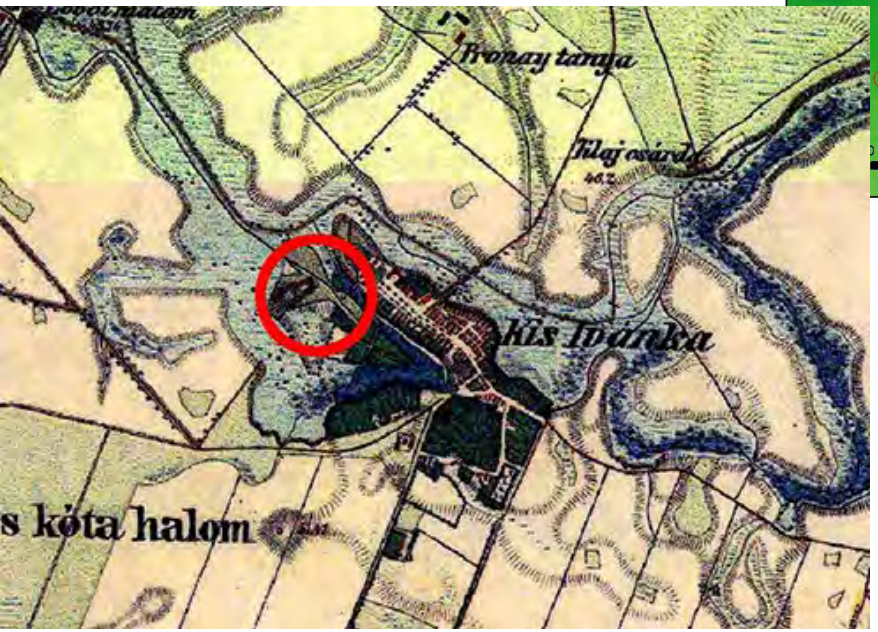
- Borsodivánka-Marhajárás (Nagyhalom)
- Bükkábrány-Kálvária

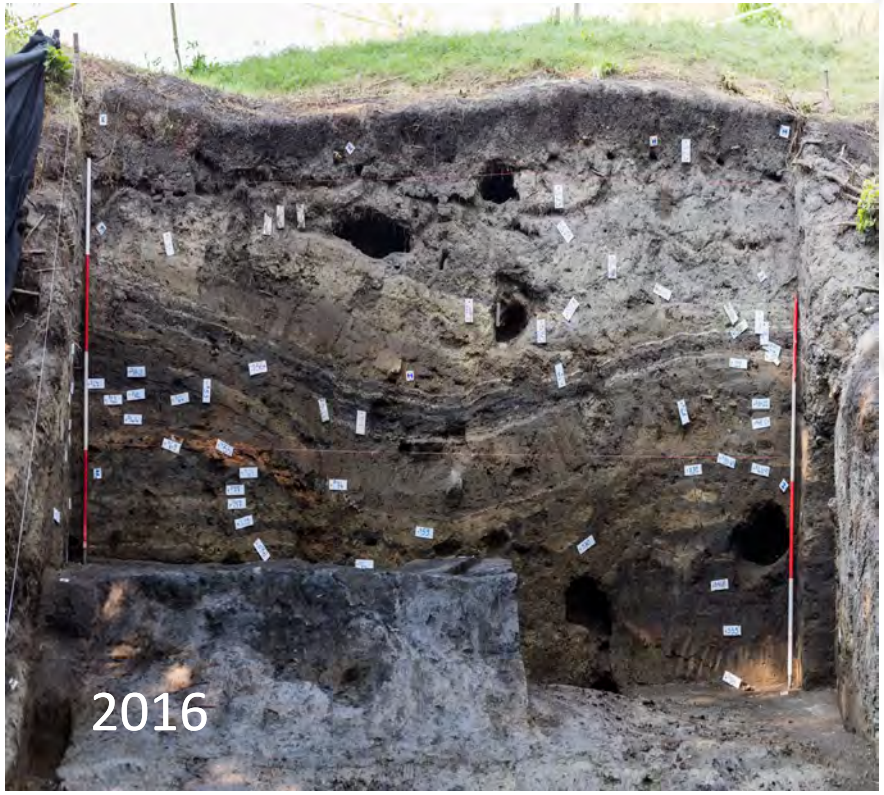

P. Fischl Klára – Tobias L. Kienlin – Pusztai Tamás
A REND
NYOMÁBAN
4000 éves települések
a Bükkalján
és a Borsodi-síkság
területén
Martin Opitz Kiadó

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► Borsodivánka-Marhajárás (Nagyhalom)





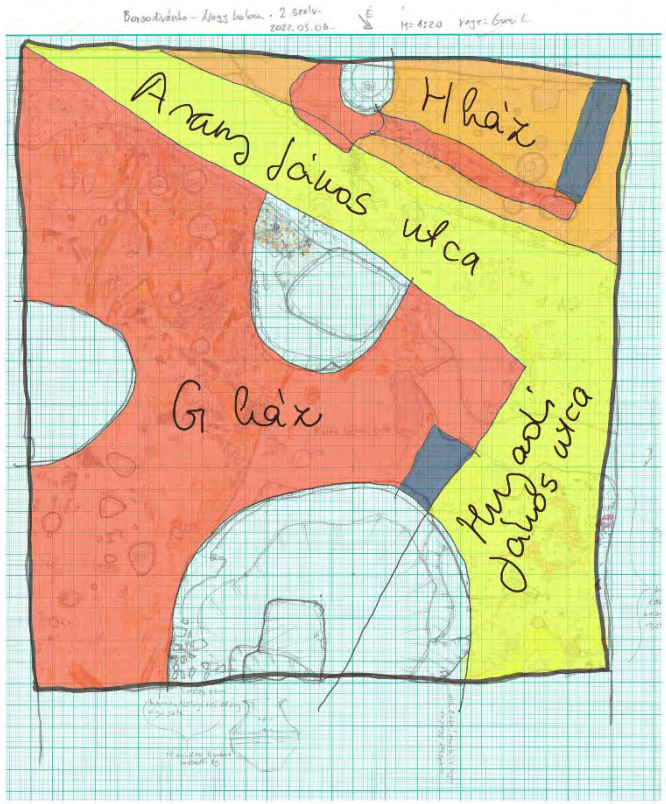

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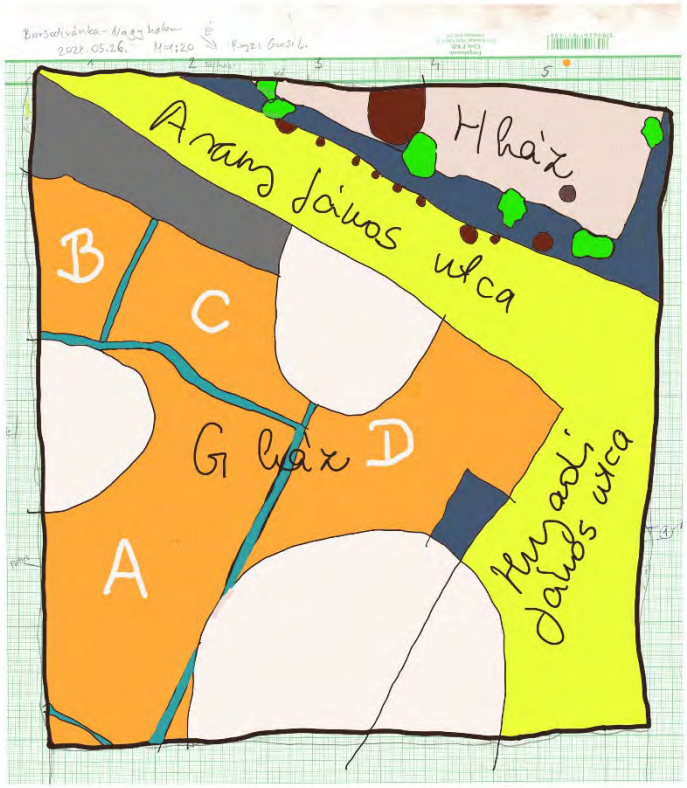
BORBAS 2022





BORBAS 2022




Arany János utca
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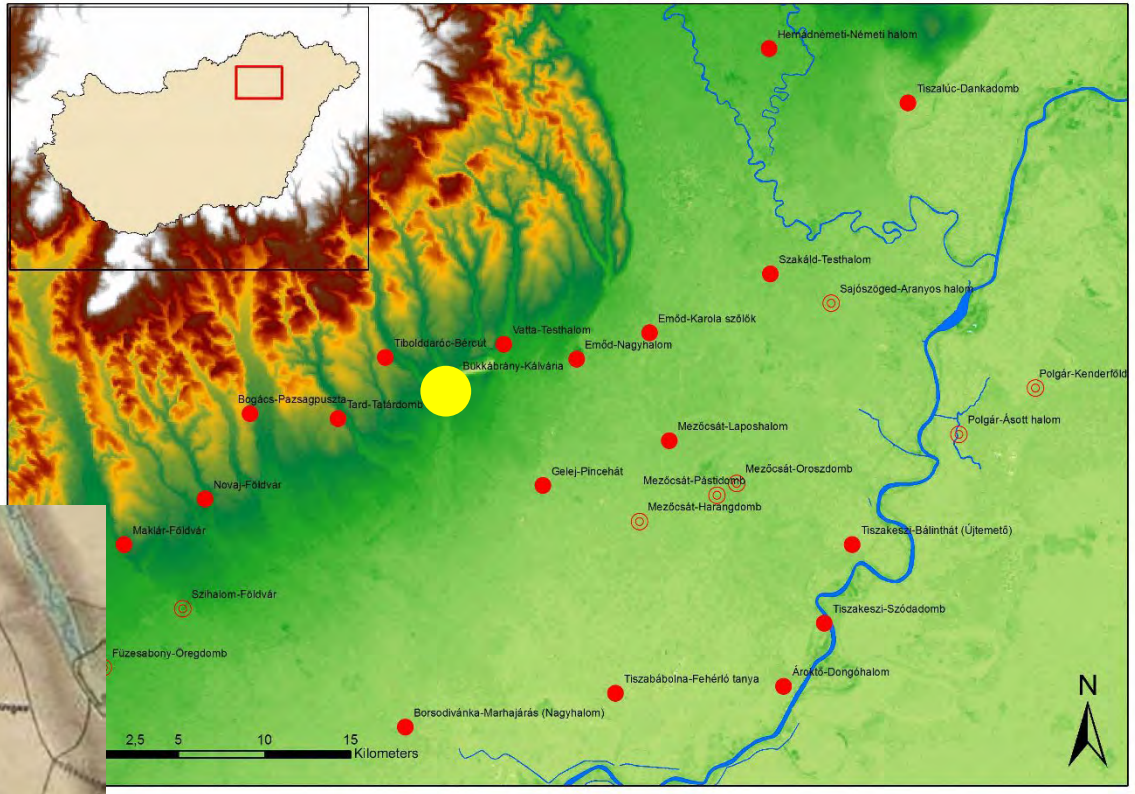




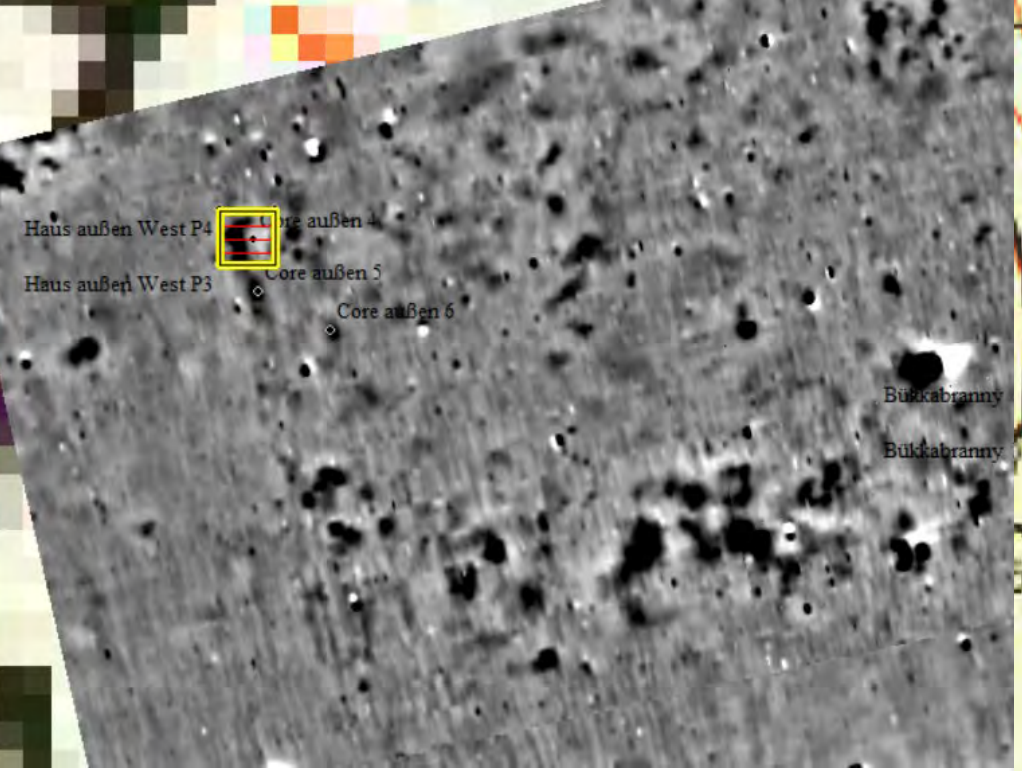


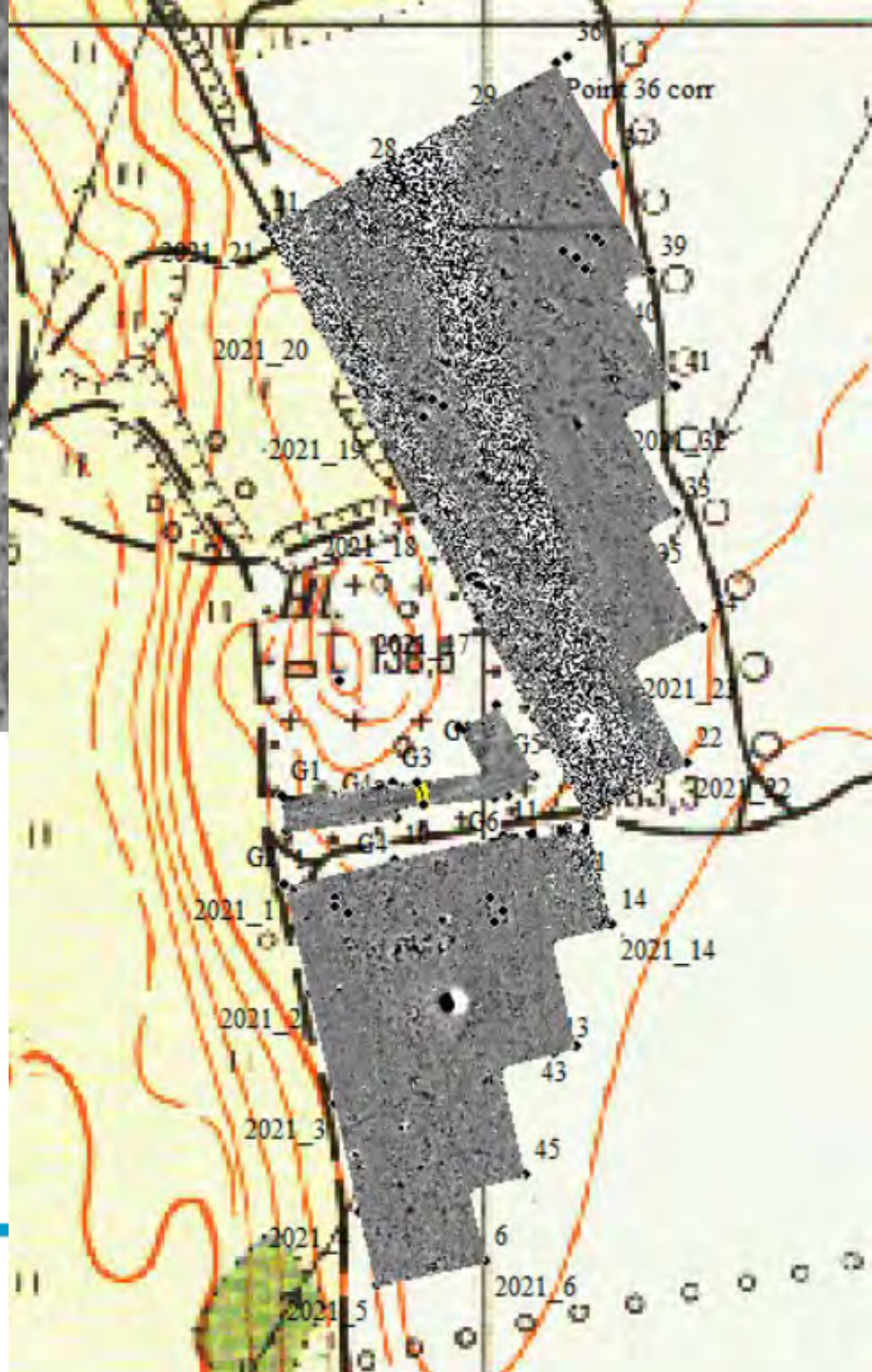
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► Bükkábrány-Kalvaria






Haus außen West P4
Haus außen West P3
Core außen 5
Core außen 6
Bükkabranny
Bükkabranny


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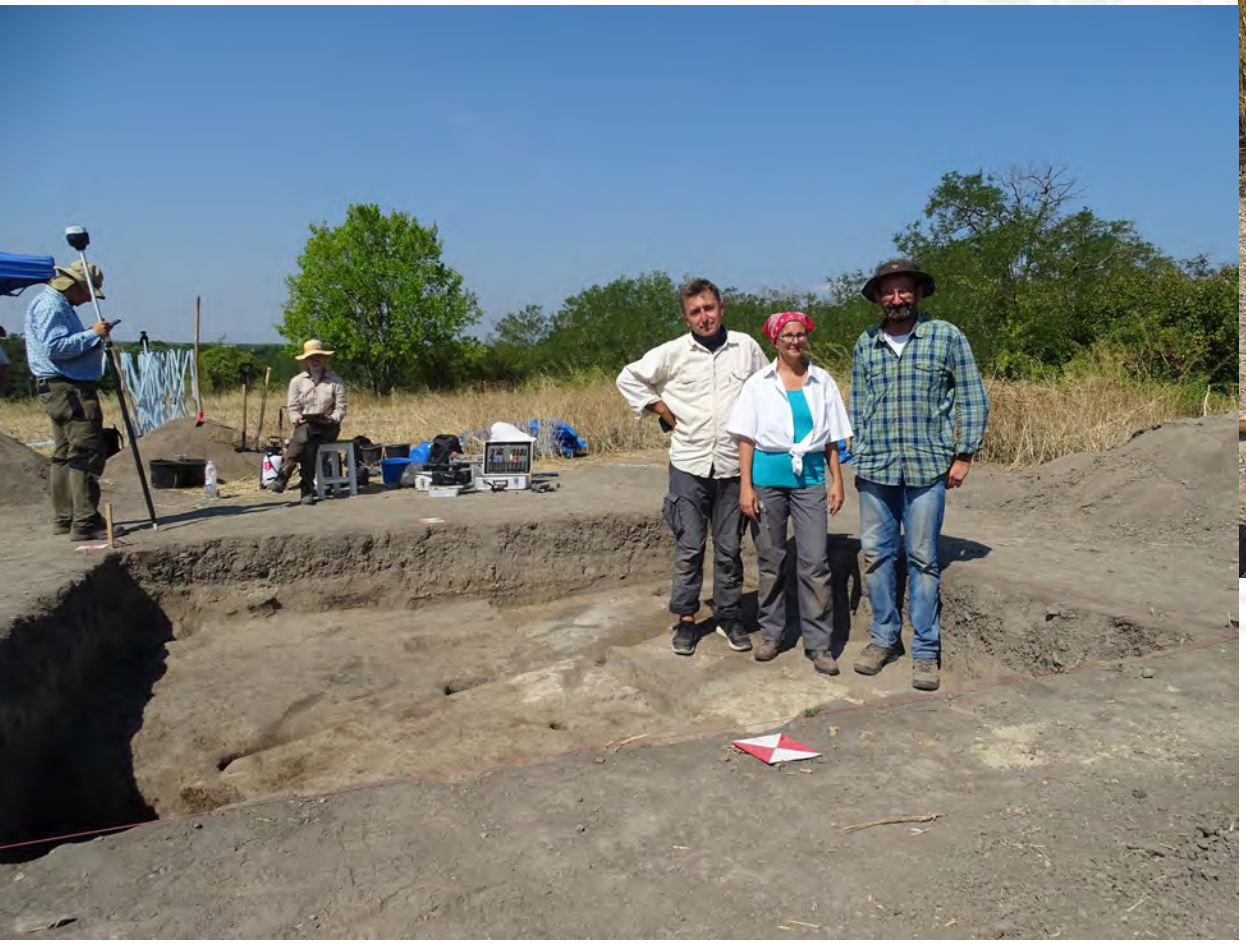


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BORBAS 2022

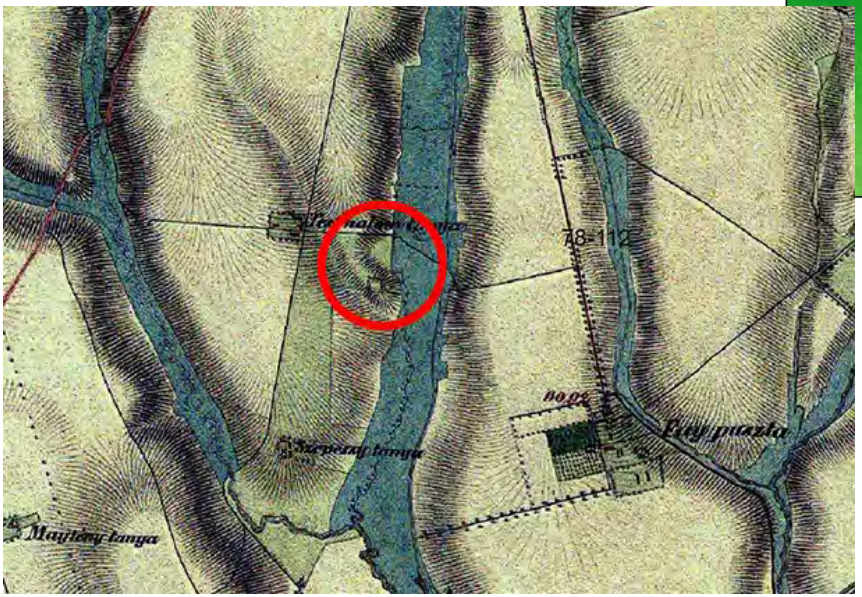


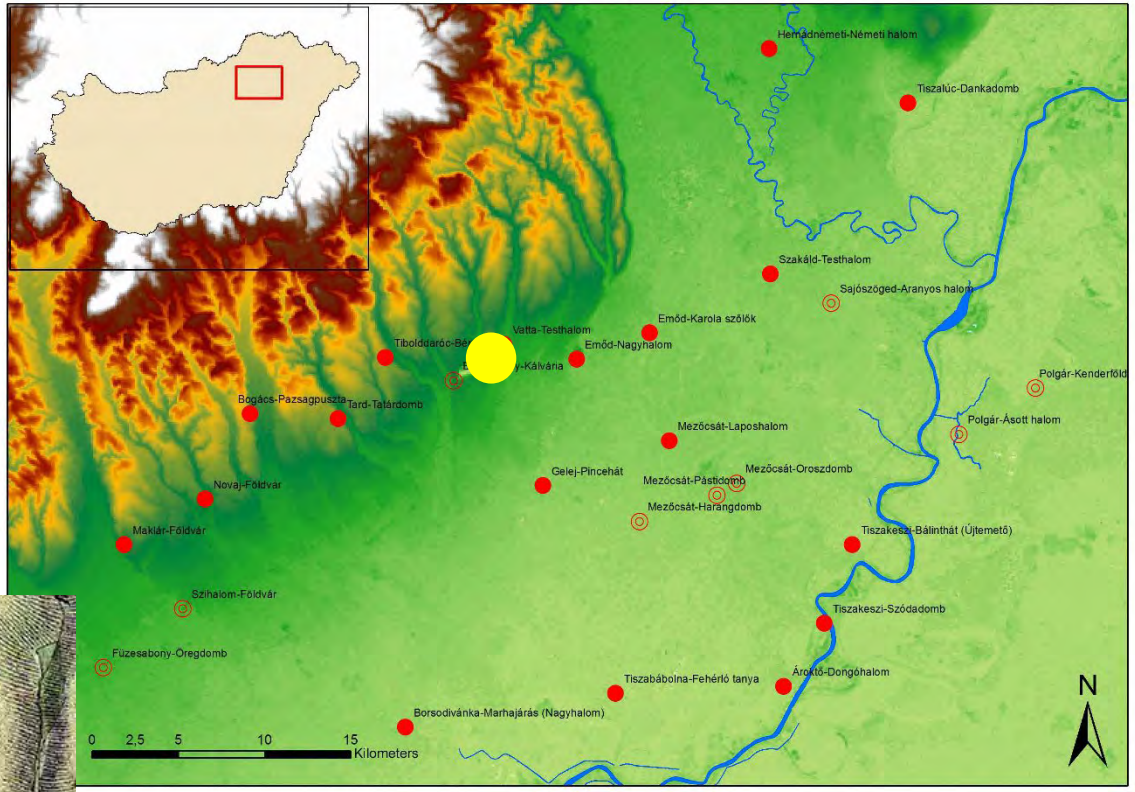




BORBAS 2022

► Vatta-Testhalom





► Magnetometry in search of a continuation of the EBA/MBA cemetery







► Sampling for radiocarbon dating the cemetery of Vatta

BORBAS

► Workshop 10 Years BORBAS

BORBAS 2022



BORBAS 10

10 Years Anniversary and Workshop

29-30 AUGUST 2022
JÓSZERENCSE HÁZA
JÓKAI ST 1., BÜKKÁBRÁNY

SUNDAY 28. AUGUST, 2022
Arrival of the guests

MONDAY 29. AUGUST, 2022

9.00-10.00	Registration
10.00-10.10	Opening
	BLOCK 1. BORBAS PROJECT
10.10-11.00	Tobias L. Kienlin: *10 Years BORBAS: Aims and Approaches*
11.00-11.20	Klára Fischl: *In the wake of the order — book presentation*
11.20-11.40	Astrid Röpke: *The tell of Borsodivánka-Nagyhalom — linking Archaeobotany and Micromorphology*
11.40-12.00	Gian-Luca Paul: *The Middle Bronze Age cemetery of Vatta-Telekoldal-dűlő: Preliminary results*
12.00-12.20	Michael Schmied: *Hand in and in field and lab — 3 years of joint archaeological research: Possibilities, chances and results of a new cooperation*
12.30-14.00	LUNCH
	BLOCK 2. OTHER PROJECTS AND RESEARCH FROM THE CARPATHIAN BASIN TELL CULTURES
14.00-14.20	Alexandra Gâvan, Marian Lie, Tobias Kienlin, Nadine Nolde, Tanja Zerl, Astrid Röpke, Gruia Fazecaș, Florin Gogâltan: *Living together or apart? Unravelling the development, internal organization, and social structure of a complex Bronze Age tell settlement at Tobolliu, western Romania. Preliminary results (2020–2022)*
14.20-14.40	Viktória Kiss, Edit Merster, János Dani, Erika Gál, Anett Gémes, Tamás Szeniczey, Krisztián Kiss, Kristóf Fülöp, Gabriella Kulcsár, Vajk Szeverényi, Ashley McCall, Anikó Horváth, László Palcsu, István Major, Mihály Molnár, Tamás Hajdu: *Bronze Age settlements and cemeteries in the vicinity of Tiszafüred – 15 years of excavation*
14.40-15.00	Magdolna Vicze, Marie Louise Stig Sørensen: *Százhalombatta Project — reflection on results*
15.00-15.20	Attila Gyucha, William A. Parkinson, Paul R. Duffy, Danielle Riebe: *Prehistoric pathways to sustainable growth: Comparative trajectories of settlement nucleation during the Neolithic and Bronze Age — a new program in the Körös region*
15.20-15.40	COFFE BREAK
15.40-16.00	Eszter Melis: Bronze Age borderzone in the territory of northwestern Hungary
16.00-16.20	Nóra Szabó: Spatial analysis of Middle Bronze Age settlement networks
16.20-16.40	D. Oravkinová, M. Cheben, T. Lieskovský, P. Moska, I. Murín, T. Nováček, J. Petřík, K. Slávičeк: *Spišský Štvrtok under revision: The results of the archaeological excavation in 2020*
16.40-17.00	Jerrod Seifert, Ashley Lingle, Paul R. Duffy, Attila Gyucha, William A. Parkinson: *The Vésztő-Mágor Conservation and Exhibition Program — goals, methods and the first season*
	BLOCK 3. POSTER SECTION
17.00-17.20	Beáta Tugya: *Archaeozoological results of the BORBAS project*
17.20-18.00	Balázs Ádám: *Bronze Age tell settlements in the Bihar Region*
	Archaeological Exhibition Bükkábrány – Guided Tour
18.00	Dinner, campfire, bath

THUESDAY, 30. AUGUST, 2022
Excursion to tell settlements of the Bükk foothill zone and the Borsod plain
Visit of the tell excavation at the site of Borosdivánka-Nagyhalom

Nemzeti Kulturális Alap · MISKOLCI EGYETEM · ELKH Eötvös Loránd Research Network · MNM MAGYAR NEMZETI MÚZEUM


MINDENNEK
JÓSZERENCS
HÁZA
BÜKKÁBRA
A REND
BÜKKALJA
BORSODI-
MEZŐSÉG

BORBAS 2022





BORBAS 2022





BORBAS 2022




VÁNDORLÓ
BÁNYA-TÓTANYA



► Excursion to Borsod sites following the workshop



BORBAS 2022



BORBAS 2022





BORBAS 2022


GLASGOW22
SOIL SCIENCE





BORBAS 2022



► Pictures of an exhibition …
The touring exhibition on the BORBAS project following the workshop (Mezőcsat)



► Pictures of an exhibition …
The touring exhibition on the BORBAS project following the workshop (Borsodivánka)





► Pictures of an exhibition …
The touring exhibition on the BORBAS project following the workshop (Miskolc)



► Pictures of an exhibition …
The touring exhibition on the BORBAS project following the workshop

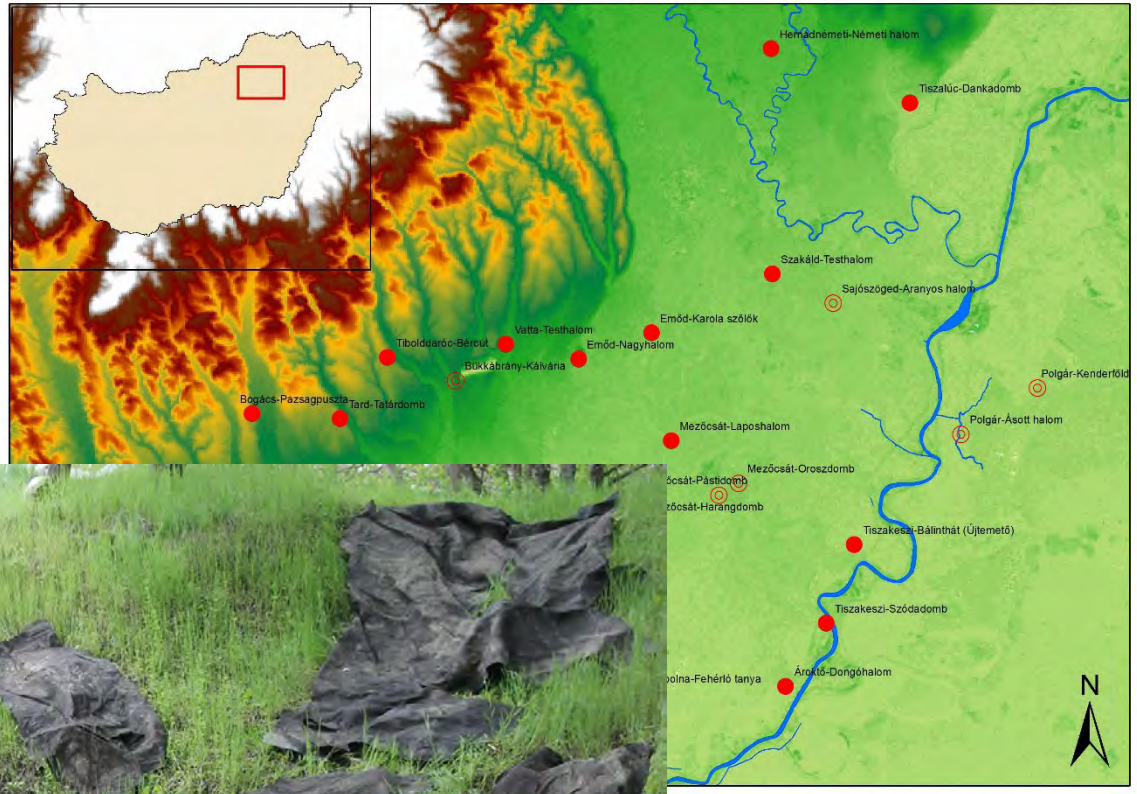




► Pictures of an exhibition …
The touring exhibition on the BORBAS project following the workshop



► Social Life on BORBAS Tells





► Accomodation in Borsodivánka







► Accomodation in Bükkábrány





BORBAS 2022

► Castle Boldogkö






Köszönjük a figyelmet

► Core drilling at Late Neolithic Gönc-Kenderföldek in the Hernád valley





► Core drilling at Late Neolithic Gönc-Kenderföldek in the Hernád valley







► Participating in the core drillings of the Toboliu project, county Oradea (RO)



BORBAS 2022 – abroad

BORBAS 2022 – abroad

Linking Archaeobotany and Micromorphology on Bronze Age Tells in the Carphathian region

Tanja Zerl[1], Astrid Röpke[1], Mirijam Zickel[1], Klára P. Fischl [2], Marian Lie[1], Alexandra Gavan[1], Tobias L. Kienlin[1]

[1] University of Cologne (Germany), [2] University of Miskolc (Hungary)

Introduction

The analysis of plant residues from archaeological sediments can reveal plenty of information not only on the diet, but also on architectural techniques, spatial and temporal changes of settlement activity and palaeoenvironmental conditions. In order to obtain more detailed information on these aspects, linking archaeobotanical macro-remain analysis with micromorphological investigations has proven to be particularly useful. Using thin section original parts of the archaeological material can be analysed with their complex interactions between organic and mineral material and thus provide important information on the depositional history of the macro-remains and the matter in which they were embedded.

The potential of this method combination is illustrated by two case studies in the Carpathian region.
During excavations of the Middle Bronze Age tell settlements of Toboliu Dâmbu Zănăcanului (Bihor County, Romania) and Borsodivánka-Nagyhalom (Hungary) (Fig. 1) correlated samples for archaeobotanical and micromorphological analyses were collected from different archaeological contexts (Fig. 2–3).
The different sample types were analysed in the Laboratory of Archaeobotany, Departement of Prehistoric Archaeology, University of Cologne, and the results were subsequently combined.



Fig. 1: Locations of the tell settlements Toboliu Dâmbu Zănăcanului (Romania) and Borsodivánka- Nagyhalom (Hungary)

Toboliu Dâmbu Zănăcanului



Fig. 2: Parts of the northern and eastern profiles of the tell sequence of Toboliu (Romania) with location of the presented layers/samples marked in red.

Borsodivánka-Nagyhalom



Fig. 3: Profile of the tell sequence of Borsodivánka-Nagyhalom (Hungary) with location of the presented layers/samples marked in red.

1 architectural features

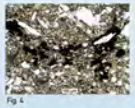


Fig. 4

A platform (housefloor, S312) built of clayey silt is contaminated with charred macro remains, as shown by macros- and microscopic plant coal fragments in the thin section (Fig. 4) (PPL).



Fig. 5

In this layer numerous charred plant remains belonging to the settlement noise were found, which were mixed with the clay during construction, of the platform, including threshing remains such as chaff of *Triticum dicoccum* (Fig. 5, left) and weeds seeds, e.g. of *Polygonum convolvulus* (Fig. 5, center) and *Galium spurium* (Fig. 5, right).



Fig. 6 Fig. 7

The first house floor sequence (S36) is composed of several chaff-tempered floors, indicated by elongates dendritic (Fig. 6) left in pseudomorphic voids (*pv*) (Fig. 7). Fragments of domestic waste can be seen in the occupation layer on top of it (Fig. 7 upper part) (PPL).



Fig. 8

Fragmented charcoal and bones were found directly on the housefloor, as well as charred threshing remains with chaff (*Triticum monococcum*, Fig. 8, left) and weeds (*Galium spurium*, Fig. 8, right).

2 domestic waste



Fig. 9

A gray (ashy) layer (S207) with accumulated domestic waste formed above a destruction layer with burnt daub. It consists of ash and silty sediments with micro- and macroscopic charred remains, phytoliths andbones. In the lower part also faecal spherulites are present. Planar voids are remnants of decayed plant fragments, they indicate trampling (Fig. 9) (PPL).



Fig. 10

This layer contained a large number of discarded charred cereal remains (e.g., chaff of *Triticum timopheevii*, Fig. 10, left) and legumes (*Pisum sativum*, Fig. 10, center), as well as gathered plants (e.g., *Cornus mas*, Fig 10, right) and some weeds. Due to the lack of a dung component (+phosphat) no mineralised plant remains were found.



Fig. 11

Waste deposits in the middle part of the tell sequence (S07)are characterized by its phosphate-rich groundmass (total phosphate: 8656 ppm) (due to a distinct dung component) with phytoliths layers, buliforms are present indicating reed (*Phragmites australis*) (Fig. 11) (PPL).



Fig. 12

Besides animal food waste (fish scales, bones) numerous plant macro-remains were found. On the one hand, charred chaff (e.g. from *Triticum spelta*, Fig. 12, left) and charred diaspores of weeds and grassland species (e.g. *Trifolium*, *Melilotus*), on the other hand (due to the phosphate), many plant remains were mineralised, such as *Lens culinaris* (Fig. 12, center) and *Daucus carota* (Fig. 12, right).

3 special features



Fig. 13

A burned mass finding with charred cereals were found inside a house (S213). The cereal caryopsis can even be seen in the thin sections (Fig. 13) (PPL).



Fig. 14

The mass find consits of carred *Hordeum vulgare* karyopses (n = 2688) (Fig. 14) together with only a few weed seeds (e.g. *Bromus* spec. and *Galium spurium*). It is likely, that the well cleand cereal charred by accident and then remained in the house after it was abandoned.



Fig. 15

Several phytolith layers in Borsodivanka occur during the phase of waste accumulation (see above). In total, macroscopically five phytolith layers with a thickness up to 3 cm could be counted. In thin section (Fig. 15), the multilaminated phytolith layers are clearly visible (PPL). These layers might have been served as coverage of the waste deposits.



Fig. 16

Very few macroremains were found in the phytolith layers. The few that were present are mostly mineralised or uncharred, hard-shelled stone kernels of *Sambucus ebulus* (Fig. 16).

Results

The approach of linking archaeobotanical and micromorphological analyses opens up new possibilities by the investigation of multiphase settlement sites.

- The respective results complement each other to provide a more comprehensive picture of living patterns on the tells.
- A more detailed description of archaeobotanical, micromorphological and archaeological contexts especially in reworked materials is given.
- The complex origins and uses of cereal remains (cooking, firing, processing, annealing) can be identified.
- A determination of taphonomic conditions and their causes is facilitated.

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(Budapest, Magyar Nemzeti Múzeum)







► Great Hungary excursion of the Department of Prehistoric Archaeology Cologne
(Százhalombatta)







► Great Hungary excursion of the Department of Prehistoric Archaeology Cologne
(Tiszafüred)







► Great Hungary excursion of the Department of Prehistoric Archaeology Cologne
(Bükkábrány and Tiszabábolna)







► Great Hungary excursion of the Department of Prehistoric Archaeology Cologne
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