

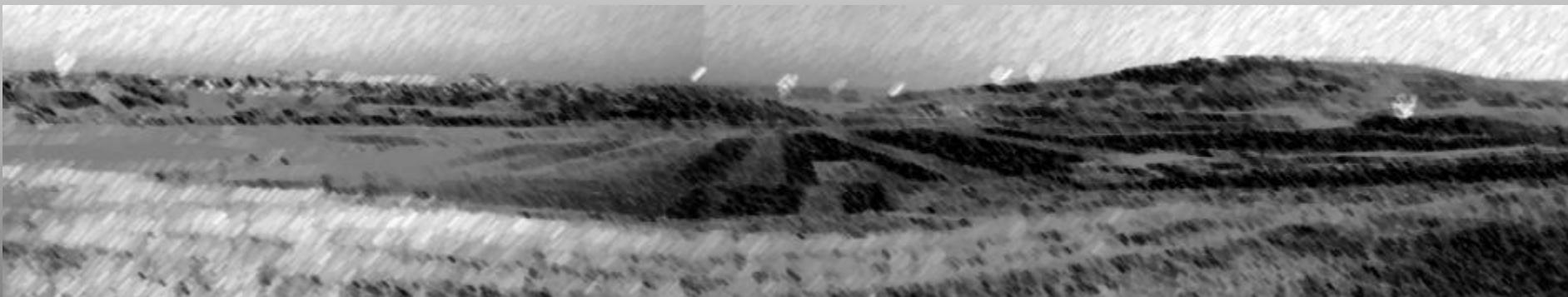
„AL. I. CUZA” UNIVERSITY OF IAŞI  
Department of Science  
Interdisciplinary Arheoinvest Platform

November 1st 2012  
H1 Room (Catargi House)



# Report on activities in the Department of Science

Research assistant dr. Andrei Asăndulesei



# Used equipment

Fluxgate magnetometer



Device for measuring the electrical resistance of the soil



GPR System (Ground Penetrating Radar)



Caesium vapor magnetometer



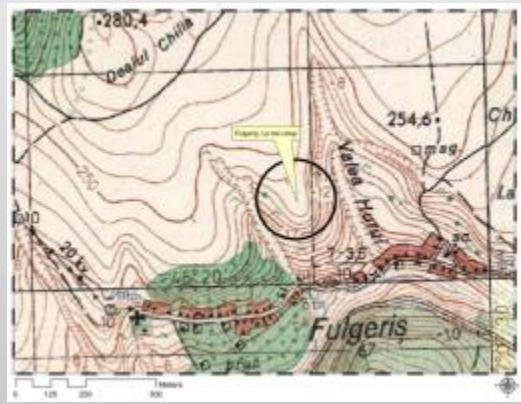
Filiași, Dealul Mare, Iași county



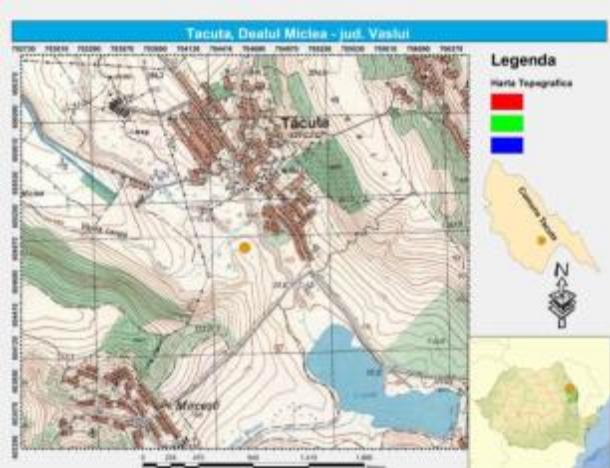
Ripiceni, La Holm, Botoșani county



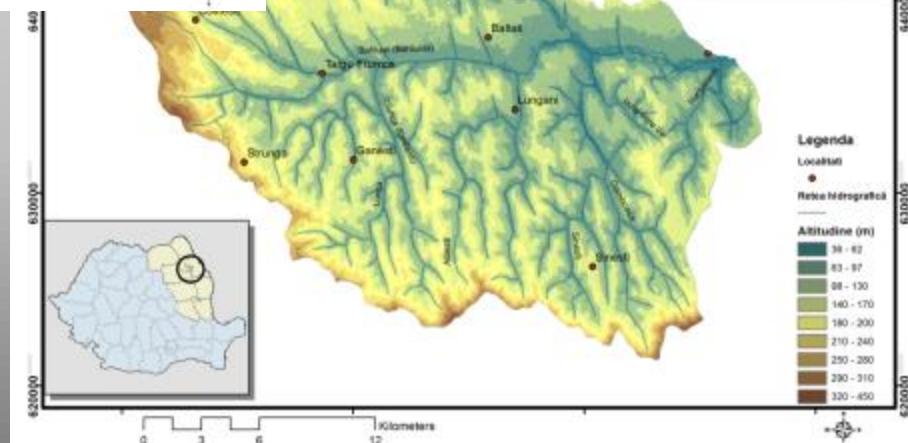
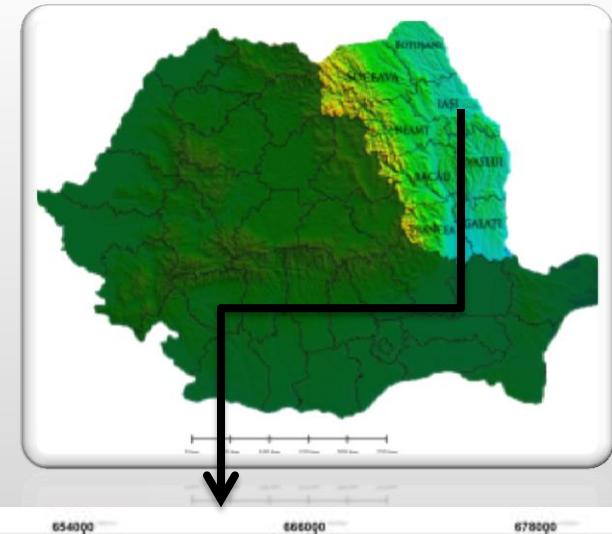
Fulgeriș, La trei cireși, Bacău county



Brătești, Chicera, Iași county



## The geographical framework of the research activities



# The applied methodology

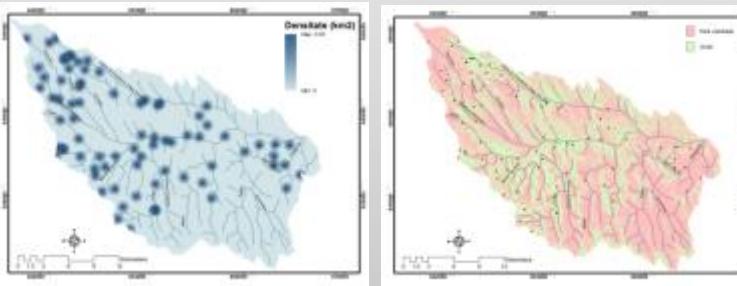


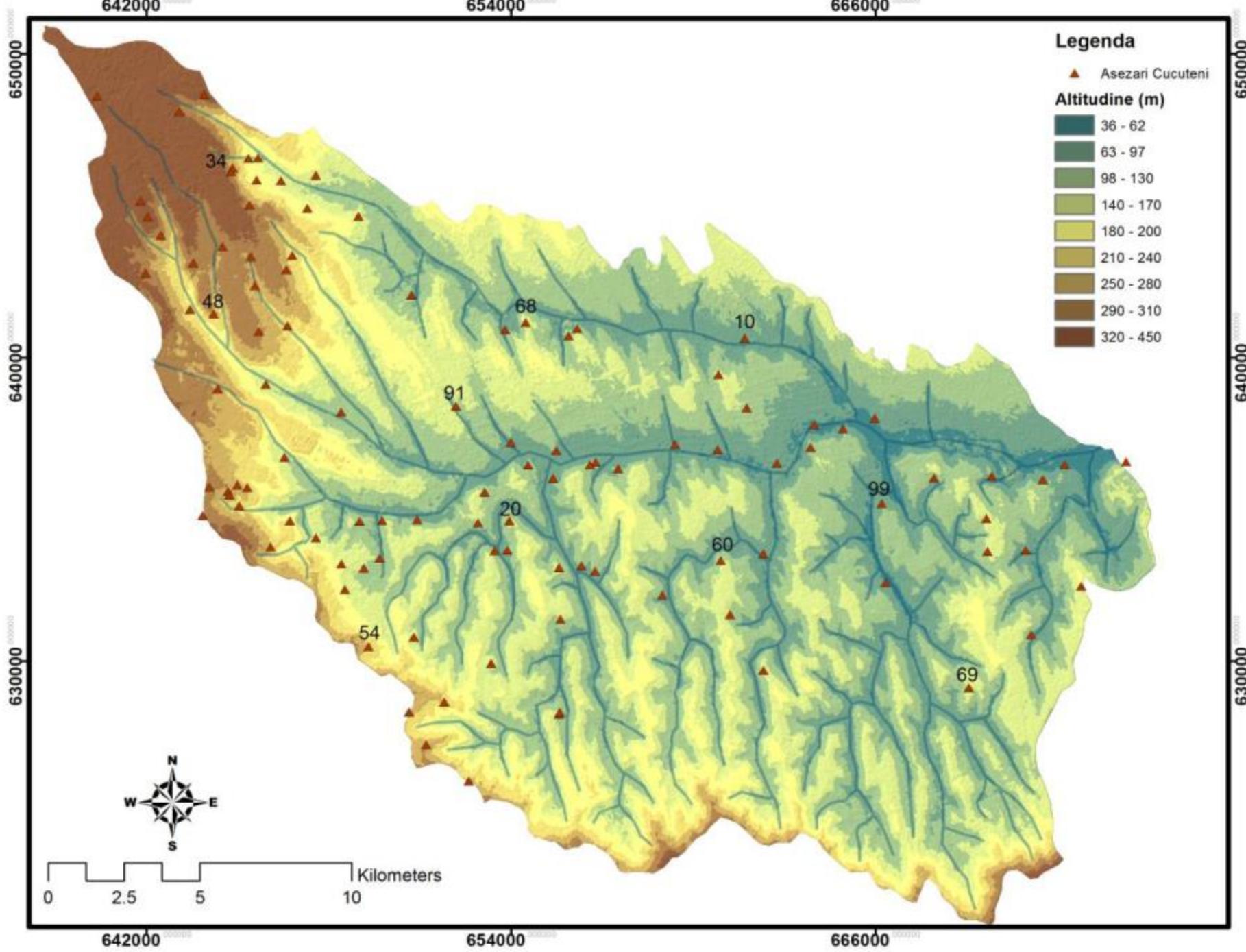
Table

XVFaza\_A\_Global\_1

OBJE	Nume	X	Y	LATITUDE	LONGITUDE	Faza
1	4.Dealul Manastirii (=La Dobrin =Dealul Gosanului)	645384.809	645026.25	47° 17' 20.0691" N	26° 55' 20.0846" E	A3
2	2.Dambul lui Pietrosu	645347.136	646569.961	47° 18' 10.0693" N	26° 55' 20.0845" E	A
3	5.Hurez	644829.606	646248.427	47° 18' 0.0693" N	26° 54' 55.0843" E	A
4	10.La Iaz (Iezul 3 - Dealul Mandra)	660630.125	640937.996	47° 14' 55.0691" N	27° 07' 20.0894" E	A3b
5	11.Livada Statuni Pomicole Iasi	661752.358	638342.247	47° 13' 30.0687" N	27° 06' 10.0899" E	A
6	18.Valea Lupului-Recea II	650788.737	630795.435	47° 09' 35.0687" N	26° 59' 20.0873" E	Precucuteni II
7	21.Dealul Beci	653478.59	635374.655	47° 12' 0.0814" N	27° 01' 33.3288" E	A
8	26.Pietrari din Valea Hainei	644342.739	638962.767	47° 14' 4.6082" N	26° 54' 23.5274" E	A
9	27.Dealul Cotargaci	664003.032	636855.912	47° 12' 40.0685" N	27° 09' 55.0906" E	A
10	30.Lacurile Izvoare	656846.69	632804.902	47° 10' 35.0674" N	27° 04' 10.0889" E	A
11	35.Pietrari din Valea Hainei	646534.803	636713.504	47° 12' 50.0676" N	26° 56' 5.0856" E	A
12	39.Tara Luncamului	647279.245	644918.317	47° 17' 15.0691" N	26° 56' 50.0851" E	A
13	42.Dealul Saraturi I	669643.426	634699.314	47° 11' 25.0684" N	27° 14' 20.0924" E	A
14	43.Dealul Saraturi II	669674.113	633618.822	47° 10' 50.0682" N	27° 14' 20.0925" E	A
15	44.Dealul Villor	670937	633654.822	47° 10' 50.0683" N	27° 15' 20.0929" E	A
16	45.Vatra satului nou	671121.774	630679.452	47° 09' 20.0677" N	27° 15' 25.0932" E	A
17	49.Draga II,Via lui Prutinica	655619.831	631382.637	47° 09' 50.0670" N	27° 03' 10.0886" E	A
18	50.Sileste	653339.356	629933.54	47° 09' 5.0666" N	27° 01' 20.0881" E	A

GIS database





# Oblique aerial photographs

Cucuteni, *Cetățuia*



Giurgești, *Dealul Mănăstirii*

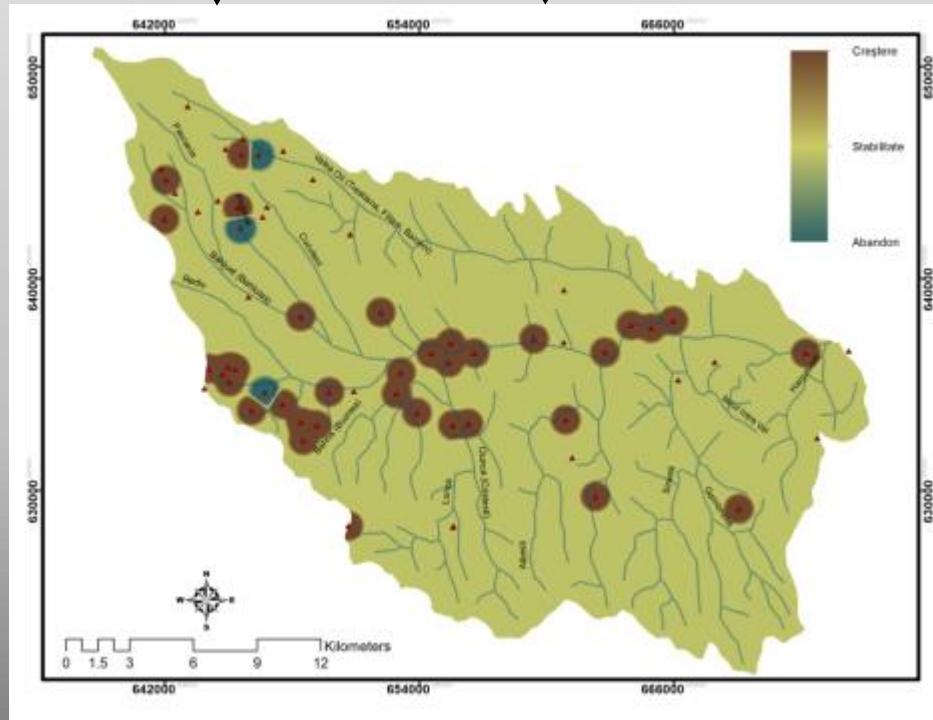
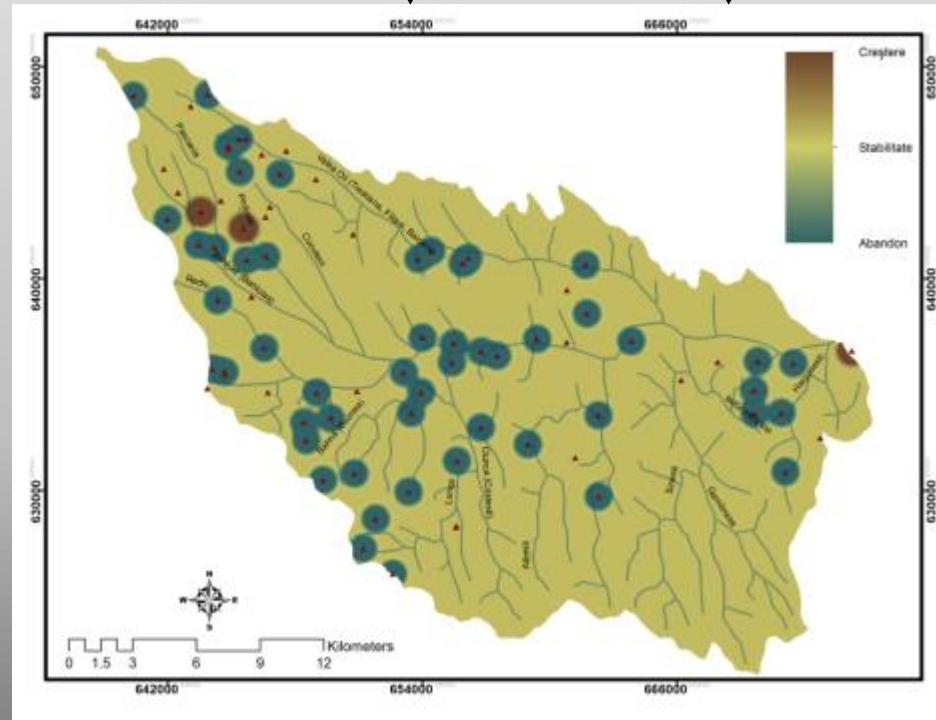
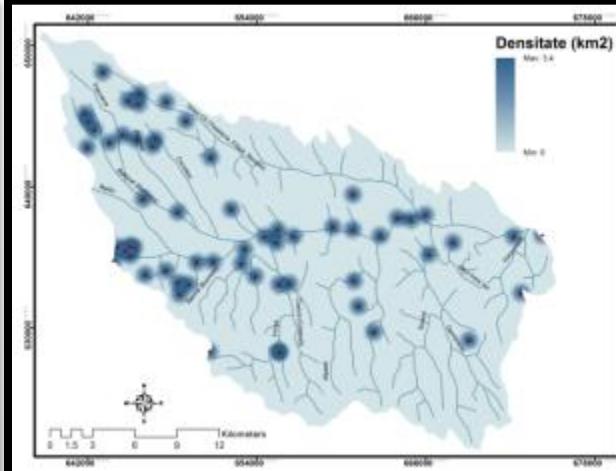
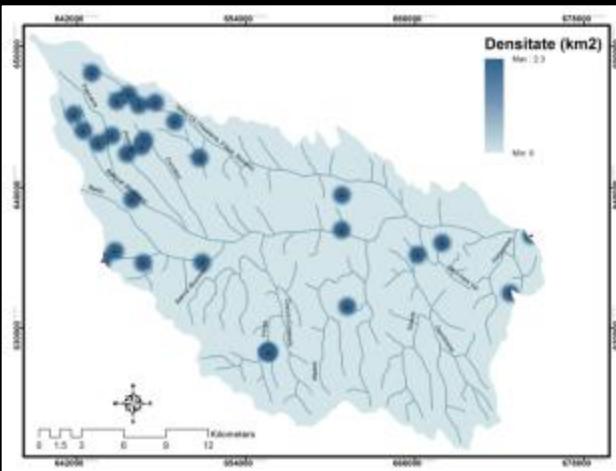
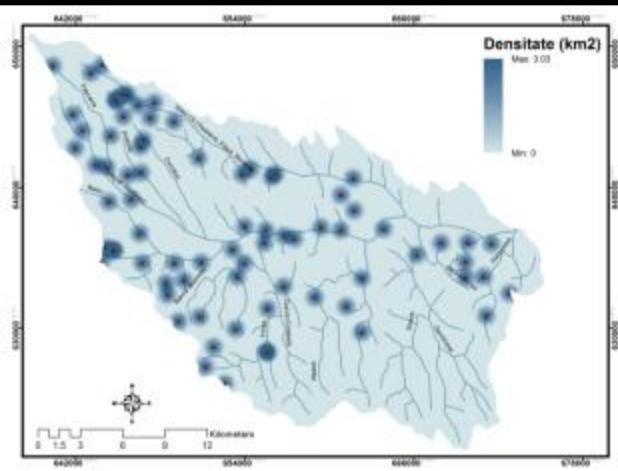


Costești, *Vatra satului-Lângă școală*

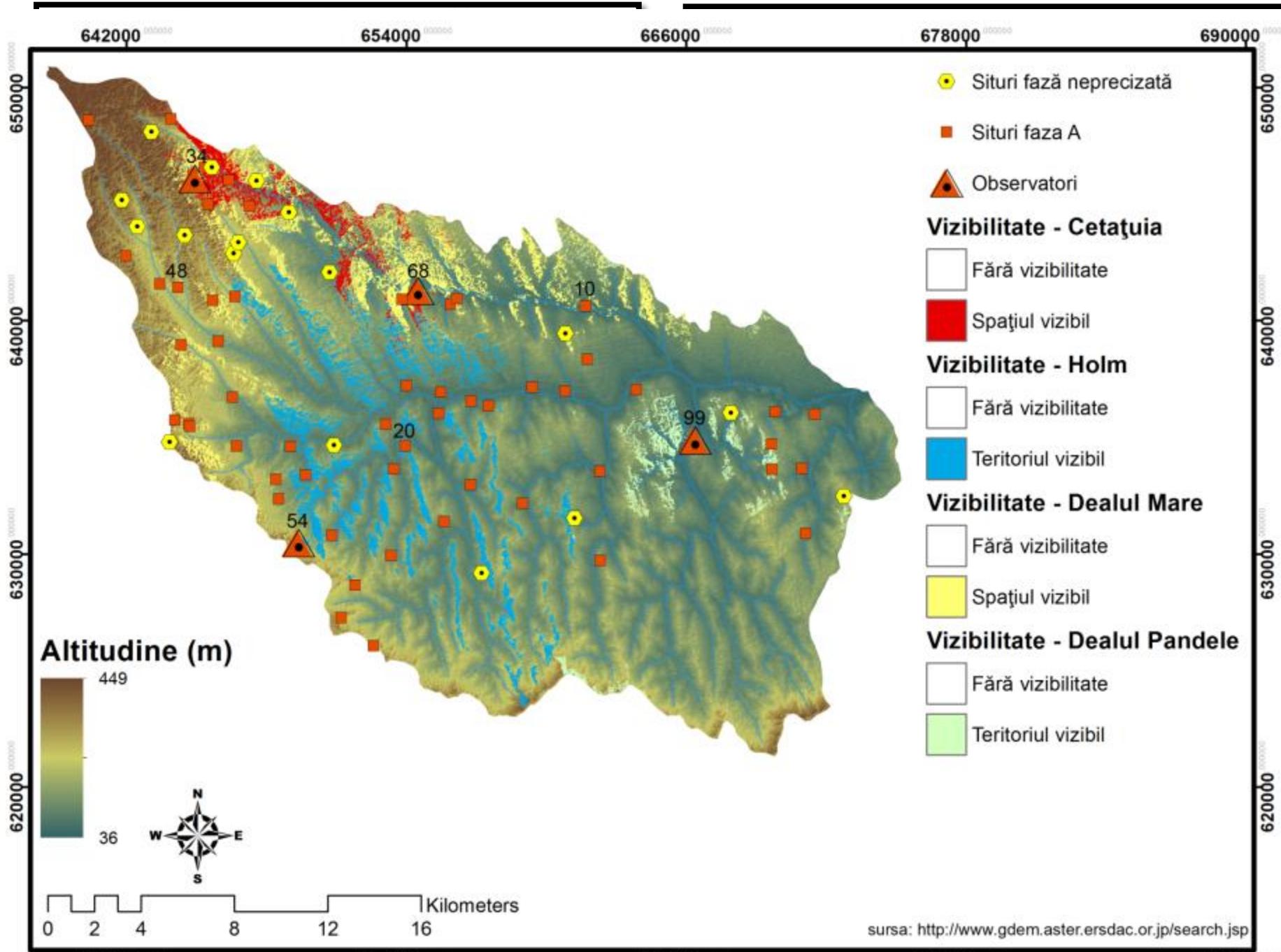


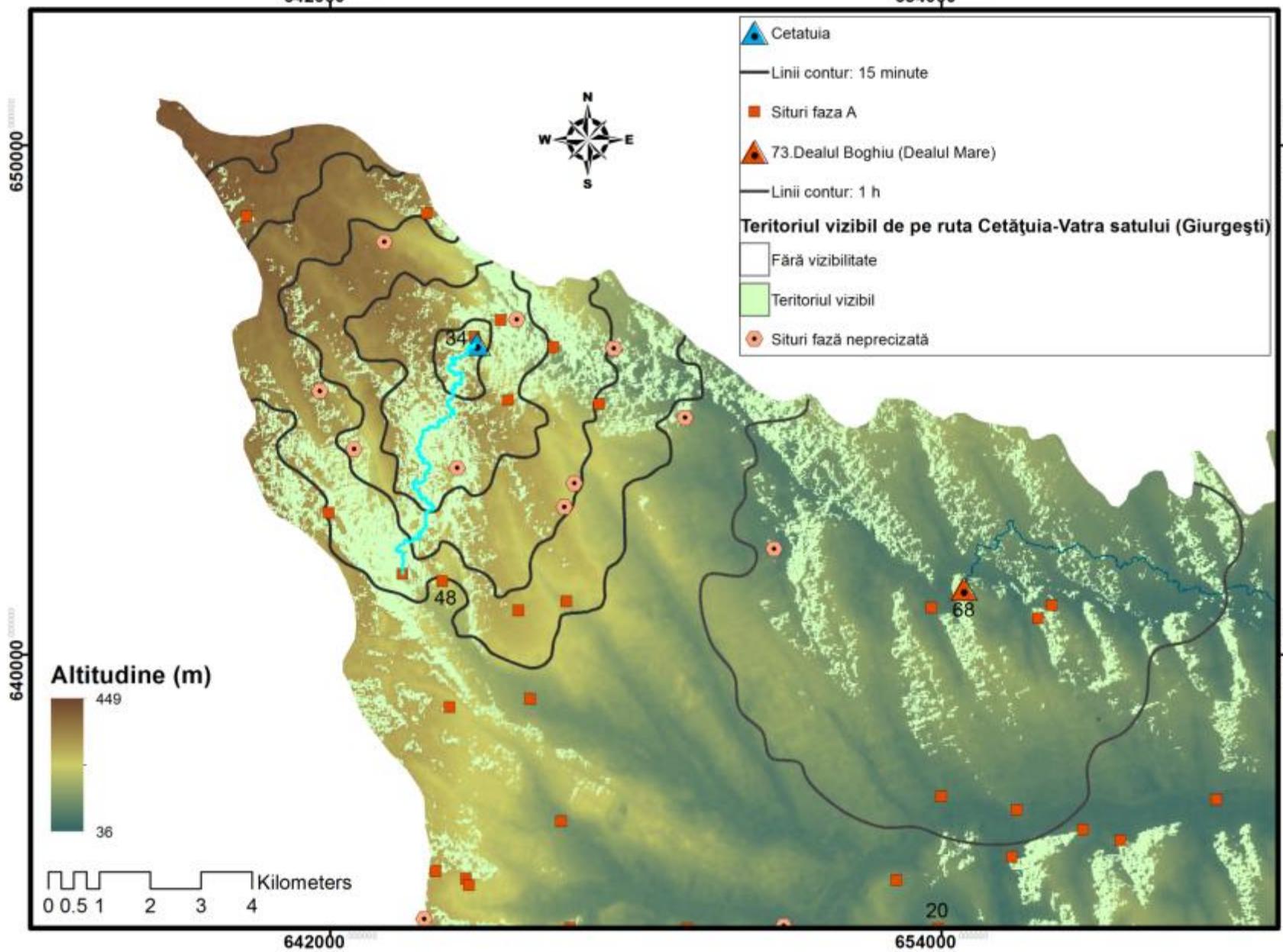
Filiași, *Dealul Mare*

# Spatial analysis. 1. Density estimation of the Cucuteni settlements

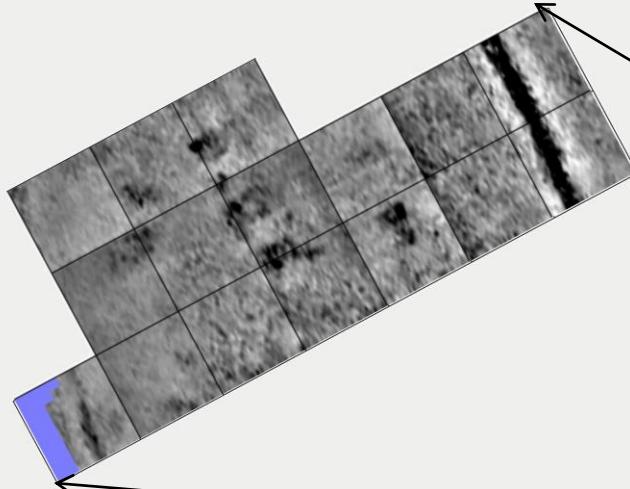


# Spatial analysis. Determination of the potential visibility in Cucuteni settlements



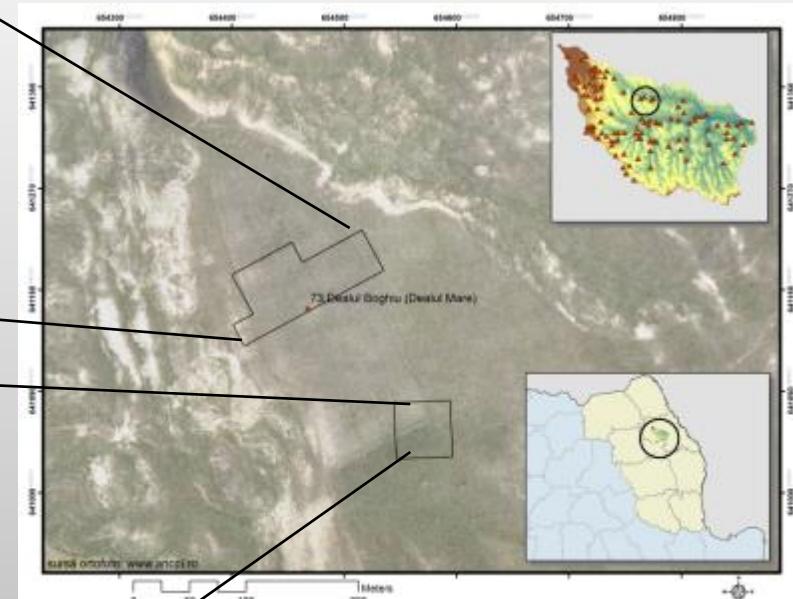
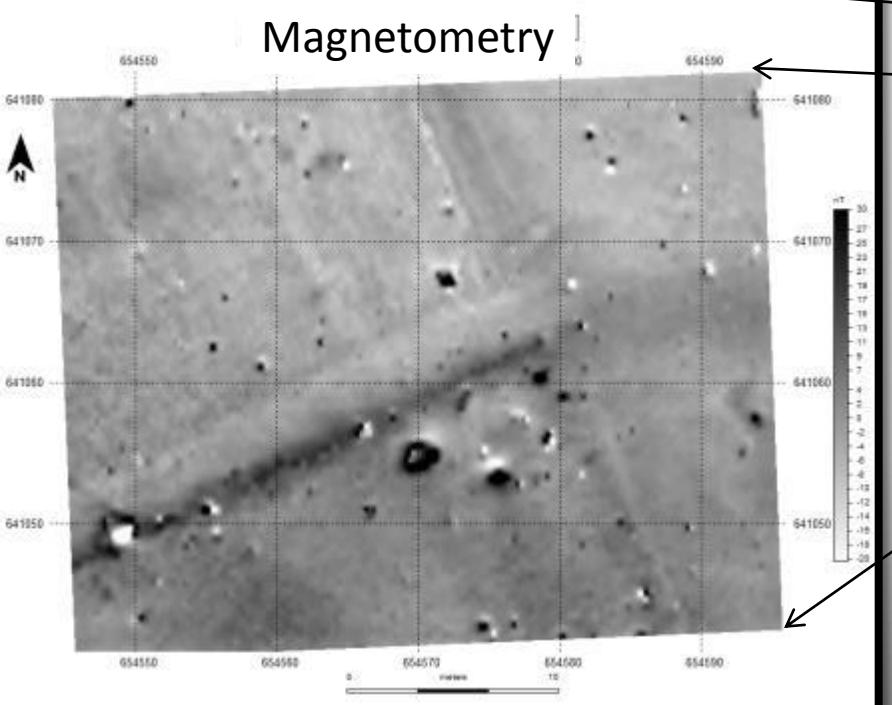


## Electrical resistance of soil



**Non-invasive prospections.  
Case study, cucutenian settlement  
Filiași - Dealul Mare**

## Magnetometry



654400 000000

654500 000000

654600 000000

## Results interpretation

641180 000000

641090 000000

641180 000000

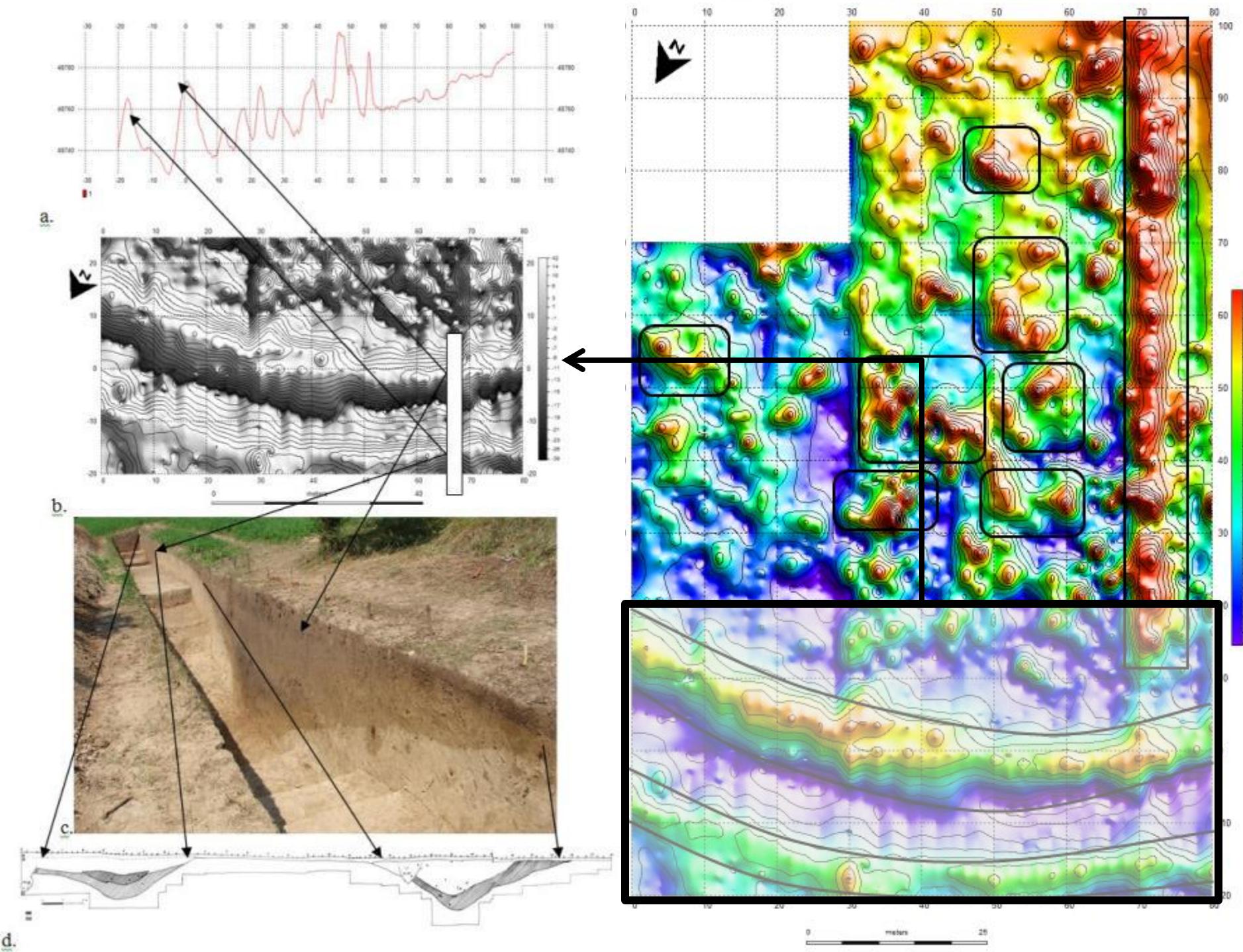
641090 000000



sursă ortofoto: [www.ancpi.ro](http://www.ancpi.ro)

0 20 40 80  
Meters





# Tacuta, Dealul Miclea - jud. Vaslui



## Legenda

Sapatura\_Arheologica\_2011

Curbe nivel

Prospectiuni nedistructive, august 2011

■ Anomalii magnetice



## iclea - jud. Vaslui

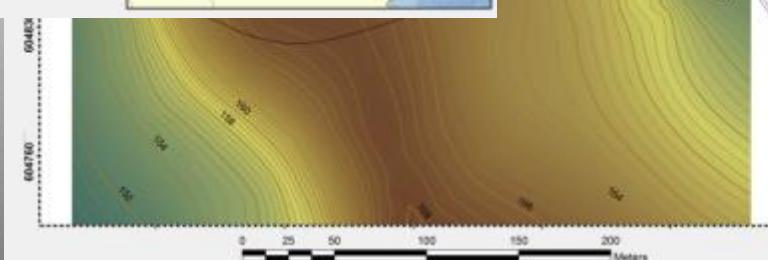


## Legenda

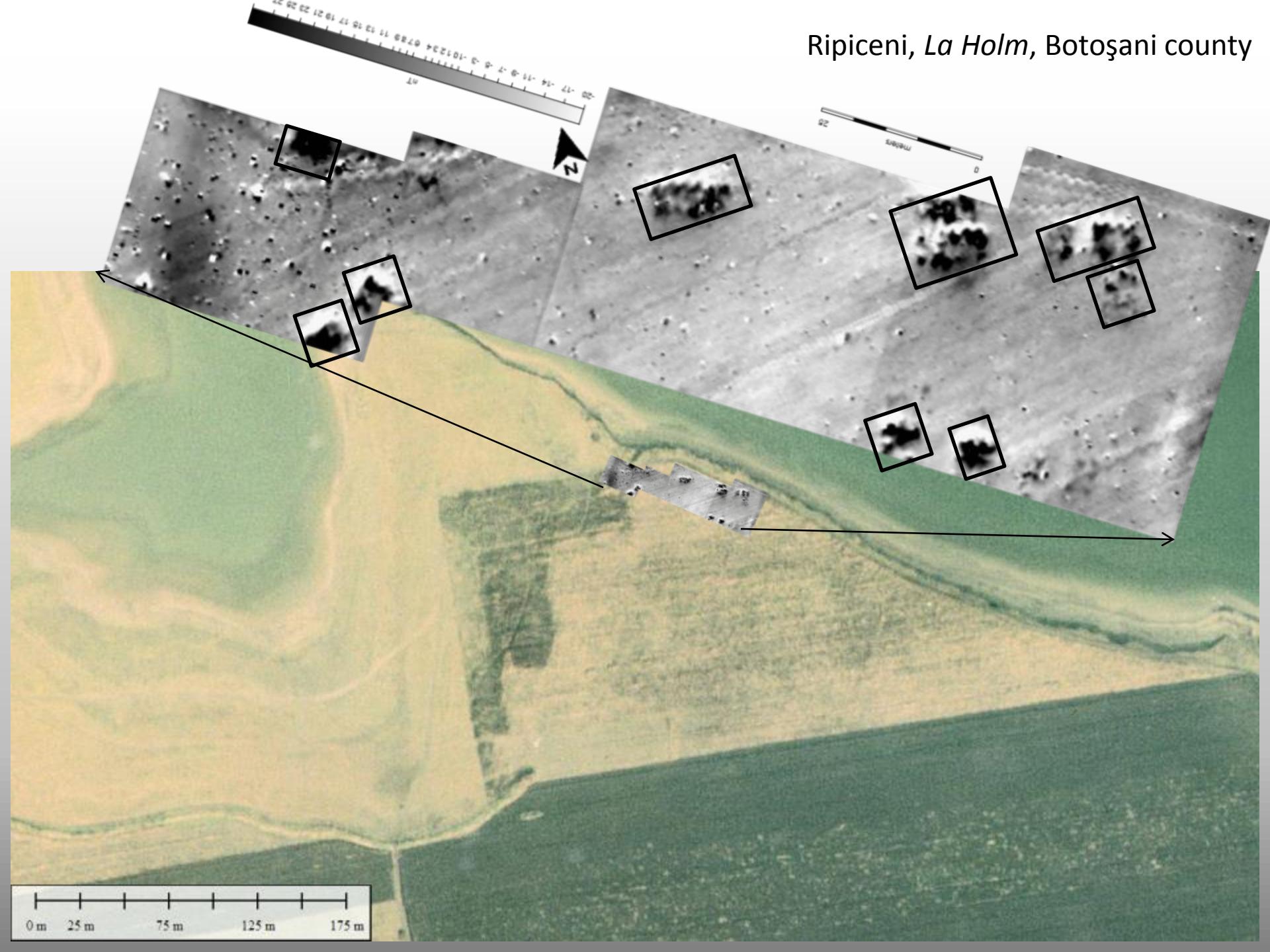
Sapatura\_Arheologica\_2011

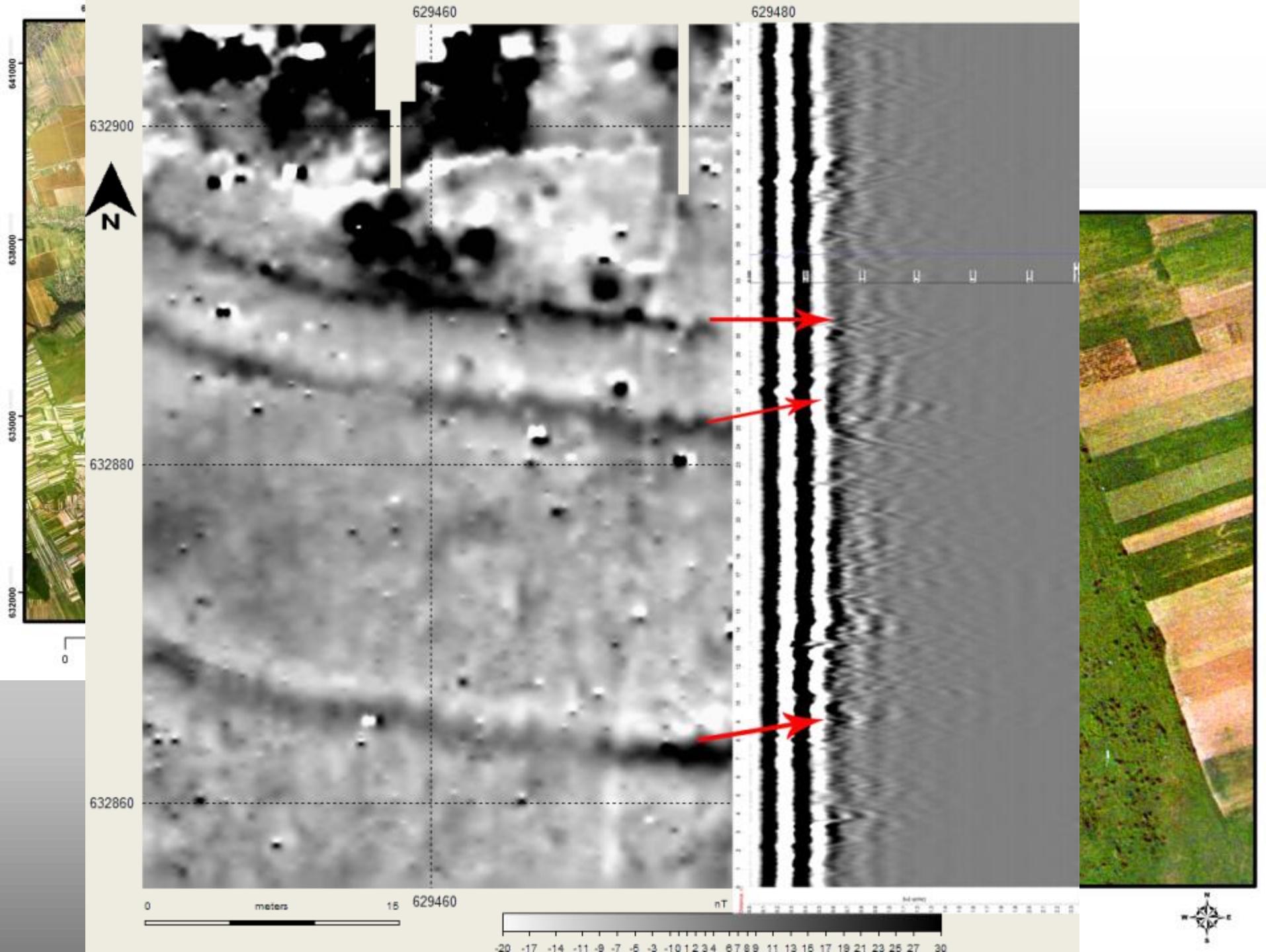
Curbe nivel

High - 160-200  
Low - 140-160



Ripiceni, *La Holm*, Botoșani county





650400 000000

650700 000000

651000 000000

651300 000000

659600 000000

659400 000000

659200 000000

659000 000000

658800 000000

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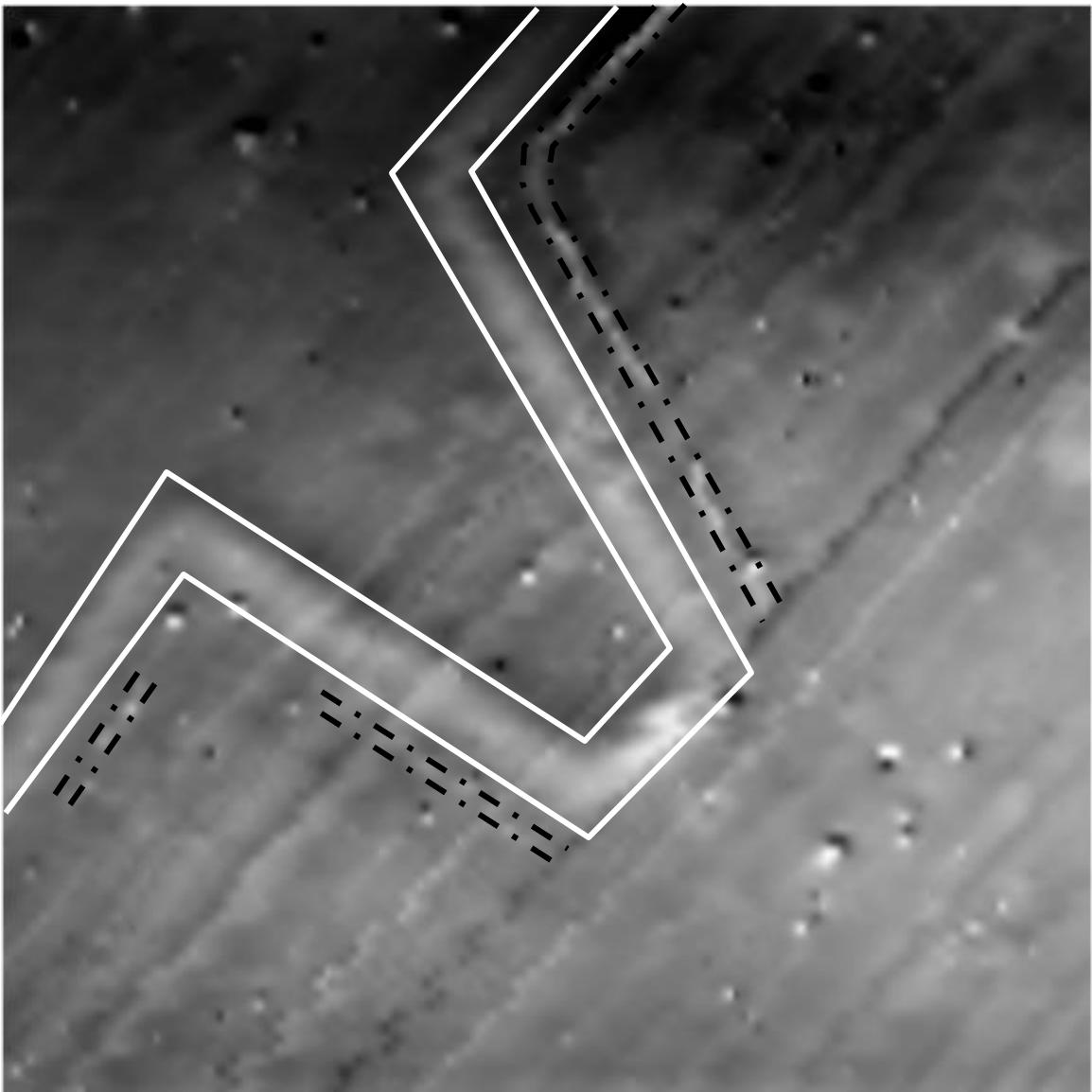


0 70 140 280 Meters



Scobinti - Harta magnetometrică

N



0      meters      25

650400

650700

651000

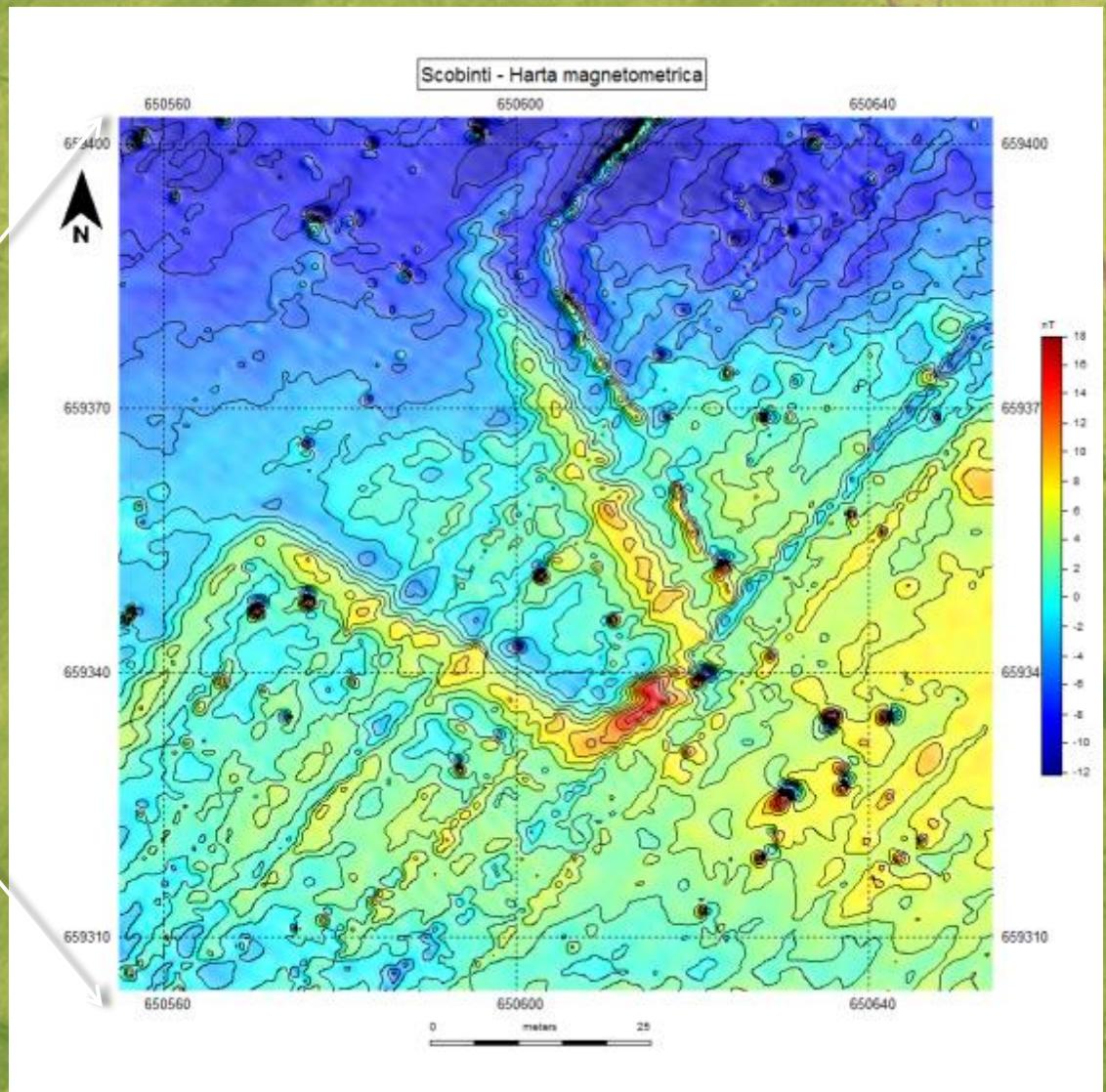
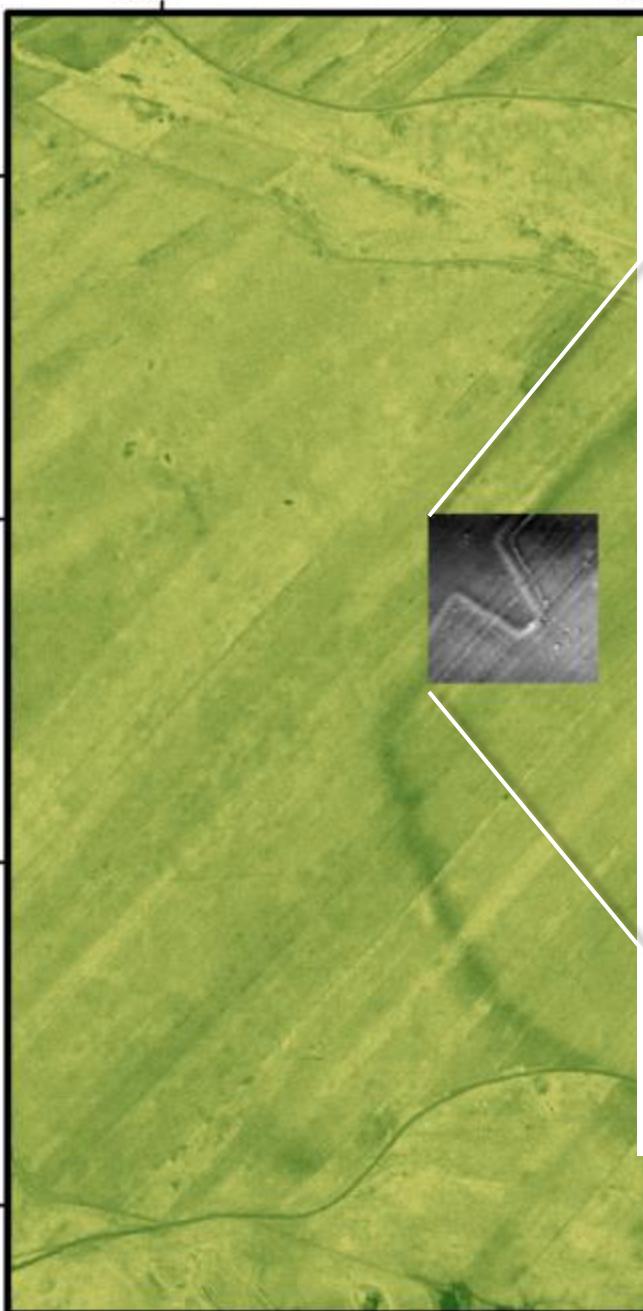
651300

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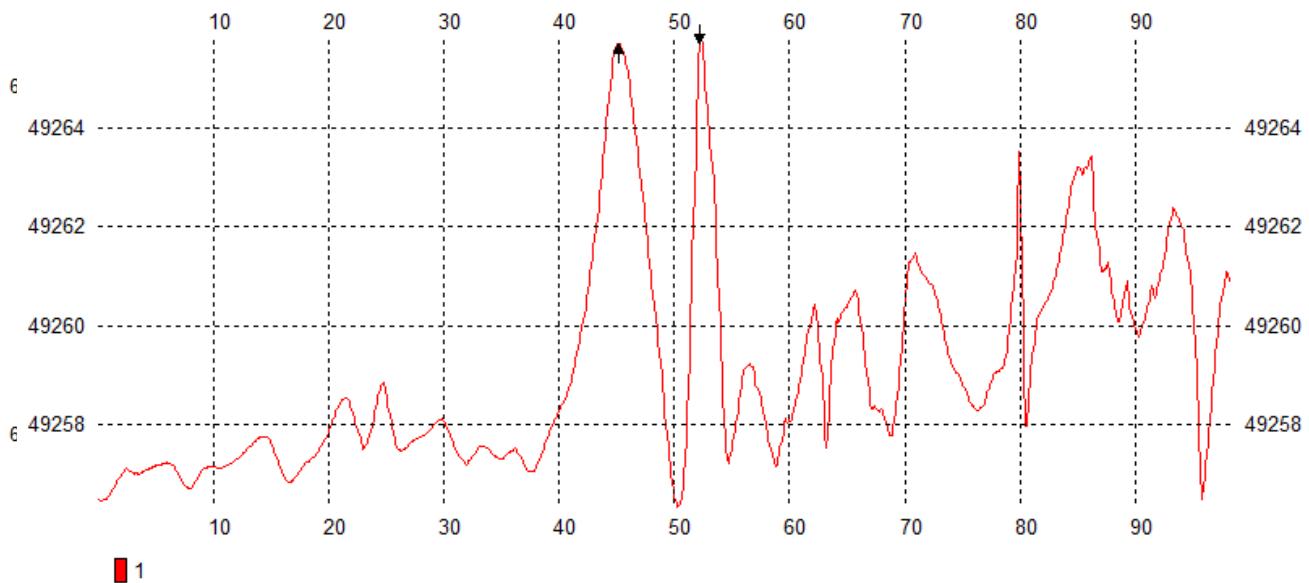
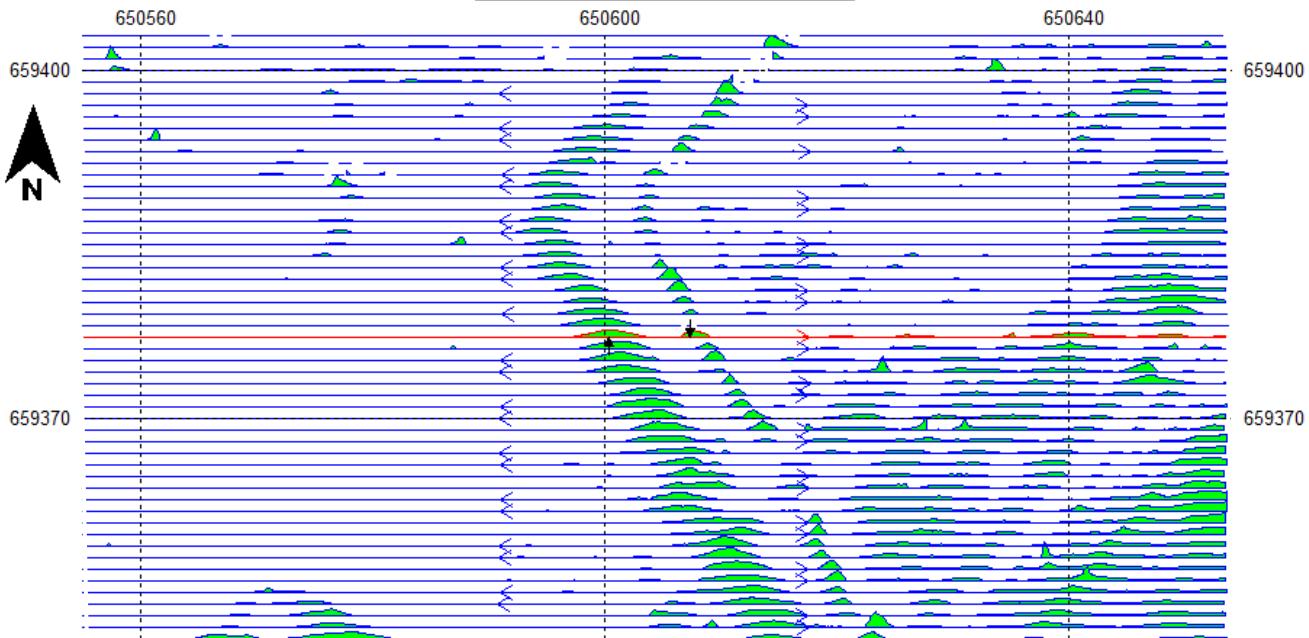
659000

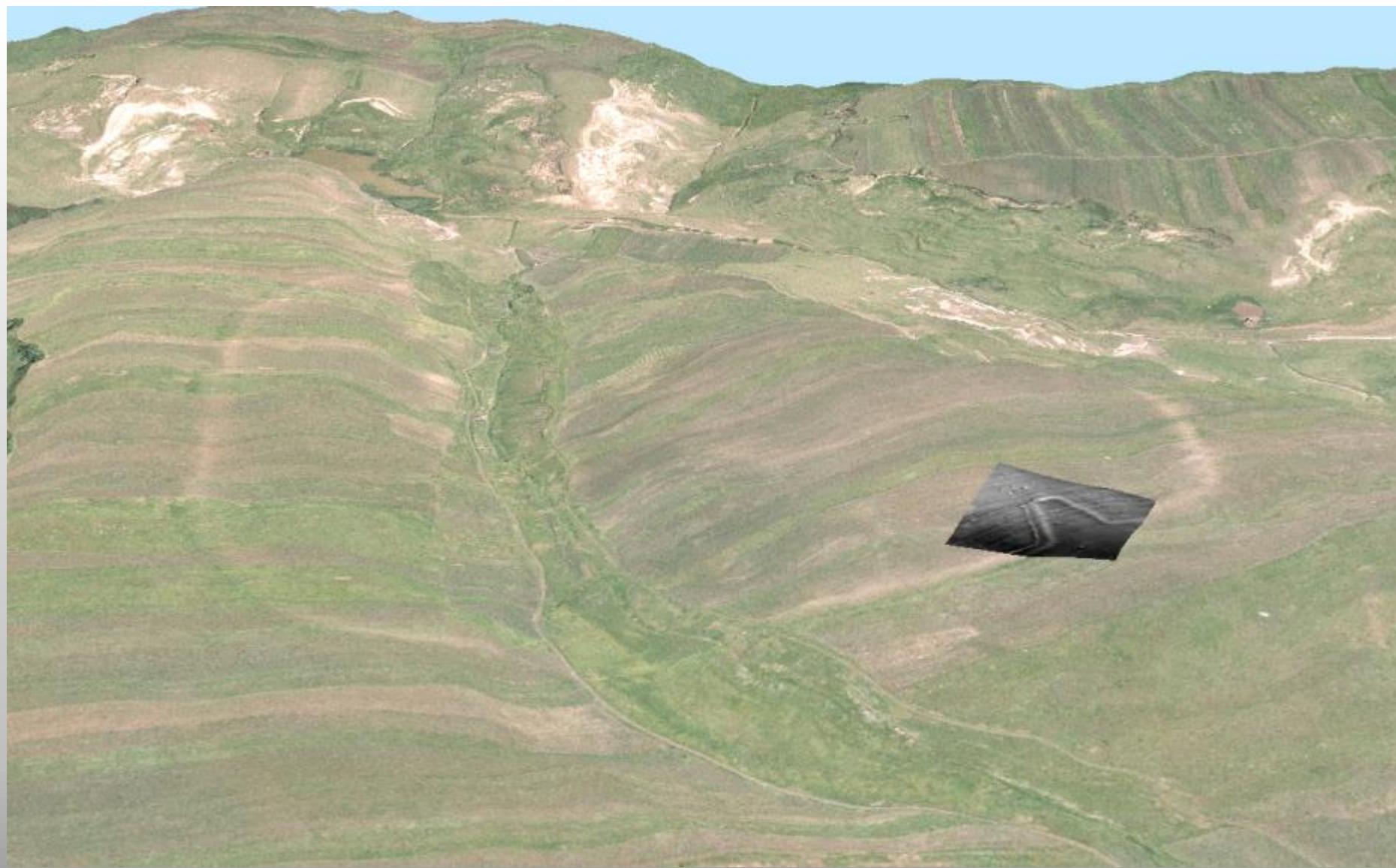


0 60 120 240 Meters



### Scobinti - Harta magnetometrică





# The main results relevant to archaeological research

- The precise mapping of the cucutenian settlements using GPS technology.
- The identification of densely inhabited areas and community dinamics throughout the Cucuteni culture.
- Achieving clues about territorial control of the main settlements.
- Important information about planimetry and fortification elements of archaeological settlements from different periods.

# Interdisciplinary aspects

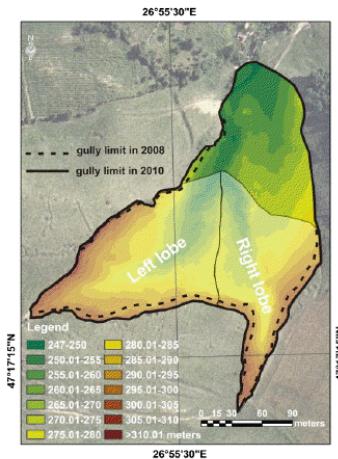
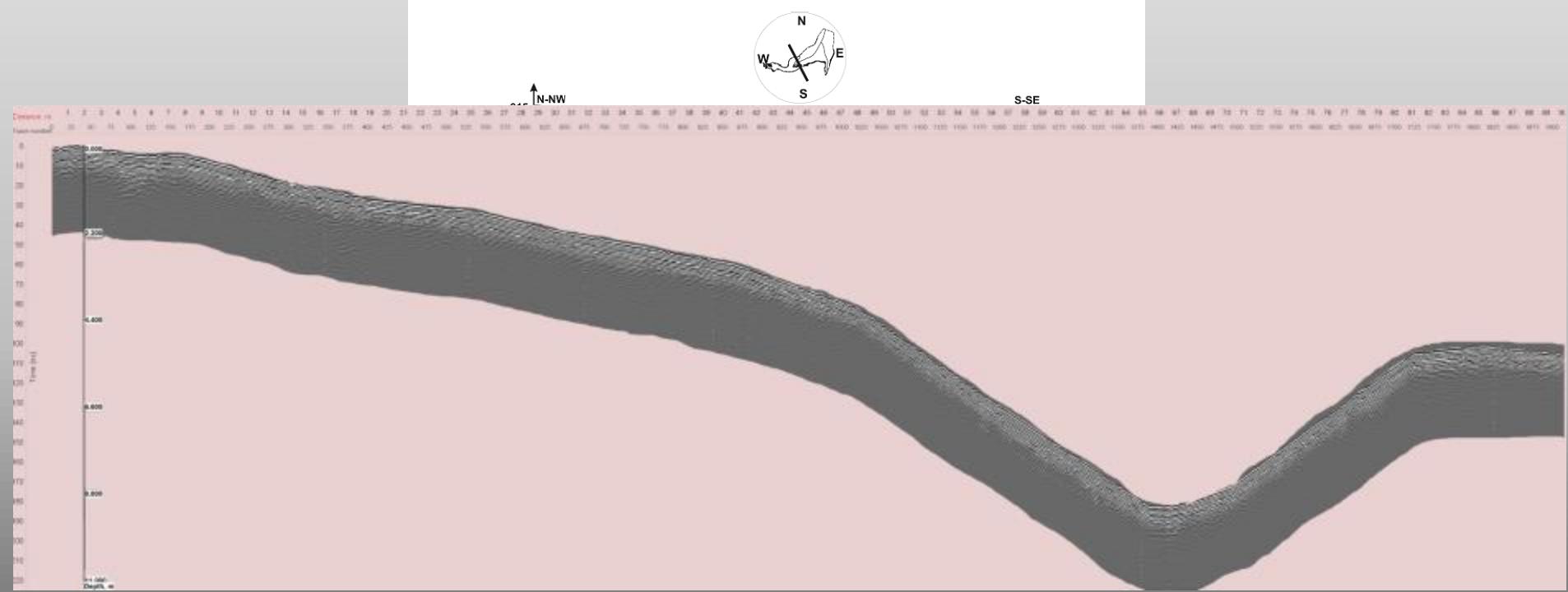


Figure 12. Making the morphologic map of the Cucuterni-Baiceni Ravine



# Papers

- In ISI reviews:
  - **Asăndulesei Andrei**, Istina Lăcrămioara-Elena, Cotiugă Vasile, Tencariu Felix-Adrian, Caliniuc Ştefan, Balaur Radu, Creţu Ana-Petronela, Nicu Cristi, Benedict Bogdan 2012 – *Cesium magnetometer survey in the Cucuteni settlement of Fulgeriş - La Trei Cireşii, Bacău County, Romania*, Romanian Reports in Physics, 64, 3.  
Impact factor = 0.5 (pe 2012)
  - Gheorghe Romanescu, Vasile Cotiuga, **Andrei Asăndulesei**, Cristian Stoleriu 2012 – *Use of the 3-D scanner in mapping and monitoring the dynamic degradation of soils. Case study of the Cucuteni-Baiceni Gully on the Moldavian Plateau (Romania)*, Hydrology and Earth System Sciences, 8, p. 6907-6937.  
Impact factor = 3,14 (pe 2011) / 3,457 (for last 5 years)  
Relative influence score = 2,368

- **In A category reviews**
- Brigand Robin, **Asăndulesei Andrei**, Weller Olivier, Cotiugă Vasile 2012 – *Notes préliminaires sur le peuplement chalcolithique des bassins hydrographiques du Bahluiet et du Trestiana-Valea Oii (Iași)*, Dacia, in print.
- **In B category reviews**
- **Asăndulesei Andrei** 2011 – *Geophysical prospecting techniques used in archaeology. Magnetometry*, Studia Antiqua et Archeologica, XVII, Editura Universității „Alexandru Ioan Cuza” Iași, p. 5-17.
- **Andrei Asăndulesei** 2010 – Vasile Cotiugă, Felix-Adrian Tencariu, George Bodi (ediderunt), *Itinera in praehistoria. Studia in honorem magistri Nicolae Ursulescu quinto et sexagesimo anno*, Editura Universității „Alexandru Ioan Cuza”, Iași, 2009, 355 p.+ planches., Studia Antiqua et Archeologica, Nr. XVI, Editura Universității „Alexandru Ioan Cuza” Iași, p. 197-201 (prezentare de carte).

- **Articles in books published in a foreign publisher**
- Brigand Robin, **Asăndulesei Andrei**, Weller Olivier, Cotiugă Vasile 2012 – *Chalcolithic territorial patterns in central Moldova (Iasi County)*, in: *Proceedings of the Computer Application in Archaeology*, (eds. Angeliki Chrysanthi, Constantinos Papadopoulos), in print.
- Gheorghe Romanescu, Vasile Cotiugă, **Andrei Asăndulesei** 2012 – *Use of Terrestrial 3D Laser Scanner in Cartographing and Monitoring Relief Dynamics and Habitation Space from Various Historical Periods*, in: „Cartography” - A Tool for Spatial Analysis, (ed. Carlos Bateira), p. 49-74.
- Cătălin Bem, **Andrei Asăndulesei**, Carmen Bem, Felix-Adrian Tencariu, Vasile Cotiugă, Ștefan Caliniuc 2012 – *Identity in diversity: photogrammetry, 3D laser scanning and magnetometric analysis of Gumelnița tells from Muntenia (Romania)*, in: Interdisciplinarity Research in Archaeology. Proceedings of the First Arheoinvest Congress, 10–11 June 2011, Iași, Romania, (eds. V. Cotiugă, S. Caliniuc) BAR International Series 2433, Oxford, Archaeopress, p. 19-36.
- Ion Niculiță, Vasile Cotiugă, Aurel Zanoci, **Andrei Asăndulesei**, Mihail Băț, Gheorghe Romanescu, Felix-Adrian Tencariu, Radu Balaur, Cristi Nicu, Ștefan Caliniuc 2012 – *Magnetometric prospections in the Thraco-Getae fortress from Saharna Mare, Rezina district, Republic of Moldova* , in: Interdisciplinarity Research in Archaeology. Proceedings of the First Arheoinvest Congress, 10–11 June 2011, Iași, Romania, (eds. V. Cotiugă, S. Caliniuc) BAR International Series 2433, Oxford, Archaeopress, p. 87-92.

- **Articles in books published in a romanian publisher**
- **Asăndulesei Andrei**, Tencariu Felix-Adrian, Cotiugă Vasile 2011 – *L'utilisation des méthodes non-invasives dans la recherche archéologique. Applications de la magnétométrie au césium sur les sites Gumelnița de Dobroudja*, in: *Société et environnement dans la zone du Bas Danube durant le 5ème millénaire avant notre ère*, (eds. Laurent Carozza, Cătălin Bem, Cristian Micu), Editura Universității „Al. I. Cuza” din Iași, Iași – București, p. 115-130;
- **Articles in abstract volumes of ISI conference:**
- **Asandulesei Andrei**, Catalin Bem, Carmen Bem, Bogdan Venedict, Vasile Cotiugă 2011 – *Identity in diversity. Aerophotogrammetry, 3D laser scanning and magnetic prospecting on Gumelnița tells of Muntenia (Romania)*, Archaeological Prospection, Editura Archaeology&Art Publications, p. 25-28.
- **Edited books**
- Victor Spinei, **Andrei Asăndulesei** 2010 – *HEIKO STEUER - European Societies in the First Millennium AD. Archaeology, History and Methodology*, Editura Academiei Române - Editura Istros.

Thank you  
for your attention!