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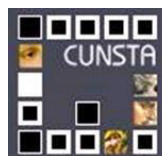
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The management of cultural heritage and landscape in inner areas

edited by Mara Cerquetti, Leonardo J.
Sánchez-Mesa Martínez, Carmen Vitale

Guardo le canoe che fendono l'acqua, le barche che sfiorano il campanile, i bagnanti che si stendono a prendere il sole. Li osservo e mi sforzo di comprendere. Nessuno può capire cosa c'è sotto le cose. Non c'è tempo per fermarsi a dolersi di quello che è stato quando non c'eravamo. Andare avanti, come diceva Ma', è l'unica direzione concessa. Altrimenti Dio ci avrebbe messo gli occhi di lato. Come i pesci¹.

Quando cammino nei prati attorno al Santuario, quasi sempre solo, ripenso a nonno Venanzio che, da giovane biscino, pascolava il gregge negli stessi terreni. Mi affascina il fatto che in questo luogo la cui cifra, agli occhi di chi guarda adesso la mia scelta di vita, è la solitudine, nei secoli addietro abitassero oltre duecento persone. Ancora negli anni Cinquanta, ricorda mio nonno, erano quasi un centinaio gli abitanti di Casette di Macereto tra contadini, mezzadri, mogli, pastori e un nugolo di bambini che costringeva il maestro a salire ogni giorno da Visso per fare lezione a domicilio.

Era una comunità compatta, coordinata come lo può essere quella delle società operose degli insetti: api, formiche, termiti, ma cosa più sorprendente che mai, una comunità niente affatto statica o chiusa².

¹ Balzano M. (2018), *Resto qui*, Torino: Einaudi, p. 175.

² Scolastici M. (2018), *Una yurta sull'Appennino*, Torino: Einaudi, p. 50.

Information system for the management of the Archaeological Map of Macerata Province: the archaeological potential map as a tool for the management of the archaeological heritage and territorial planning of the inner areas

Chiara Capponi*

Abstract

The research is aimed at creating a map of archaeological risk and a map of archaeological potential for the province of Macerata. The exam of the data of the Archaeological Map of Macerata province highlights different degrees of information, which depend on the context(s) of discovery and the level of analysis. The adoption of Geographic Information Systems (GIS) for the archaeological data and the management of the same in a Territorial Information System (SIT) allow the creation of models for spatial analysis. These models, applied to a territory for which archaeological data are insufficient, might be useful in interpreting settlement patterns and archaeological processes in a given area. Particular attention was paid to the geological information. The analysis of all the data archived in the SIT, which will certainly suggest new research topics to deepen, is already advantageous in the governance and strategic development of the territory, particularly in the inner areas.

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Nel contributo è dettagliata la metodologia applicata alla ricerca finalizzata alla creazione della carta del rischio e della carta di potenzialità archeologica della provincia di Macerata con particolare riguardo alle aree interne. L'esame dei dati archeografici evidenzia differenti gradi di informazione determinati dalla tipologia del ritrovamento archeologico e dall'intensità della ricerca. L'archiviazione in ambiente GIS dei dati archeologici e la successiva gestione degli stessi in un sistema informativo territoriale (SIT) consentono la creazione di modelli per analisi spaziali. Tali modelli, proiettati nei territori per i quali le informazioni archeologiche sono scarse o nulle, rappresentano la base per la valutazione storica delle modalità insediative e di sfruttamento del territorio nel suo complesso. Particolare attenzione è rivolta alle informazioni geologiche. L'analisi e la rielaborazione di tutti i dati all'interno di un SIT, permettendo di creare differenti tematismi, si presenta particolarmente utile nelle aree interne per tutte le scelte progettuali legate alla *governance*, allo sviluppo del territorio e alla pianificazione intersettoriale.

The research is part of the CAM project (Marche Archaeological Map), supported by the Marche Region and lead, for the province of Macerata, by Roberto Perna of the University of Macerata, in cooperation with the Province of Macerata, the Macerata Museum System association and the Marche Archaeology, Fine Arts and Landscape Superintendency Department¹. This ongoing study has been carried out during the Ph.D. in Linguistic, philological, literary studies (XXXI Cycle, EUREKA course) in collaboration with PlayMarche s.r.l., a spin-off of the University of Macerata. The research is aimed at creating a map of archaeological risk and the map of archaeological potential for the area in the province of Macerata by developing simulation models and relative projections that produce graphic depictions of the territorial areas most suited to stable settlement under the form of "risk ranges"².

A territorial information system has been created for this end organised on the following different databases and charts:

- regional technical map (CTR)³;
- colour digital orthophoto map⁴;

¹ Perna 2001, 2002; Perna, Orsetti 2001; Capponi, Perna 2012.

² The branch of spatial analysis and simulation with the prediction of archaeological "risk" was developed early parallel with the development of mathematical-statistical surveys applied to geography, urban sociology and similar subjects (see Azzena 1987 and 2009; Fabiani *et al.* 2013; Gelichi 2008; Moscati 1998, 2013). Regionally, this is the first experiment on a vast scale; similar studies have been prepared for limited portions of land: Ascani *et al.* 2004; Perna 2004a, 2004b, 2006.

³ The reference map basis used is regional maps (CTR) for the province of Macerata on the scale of 1:10,000. The reference geodetic map system is "Gauss-Boaga Fusso Est" (Code EPSG3004), with the geodetic reference based on the international ellipsoid directed towards Monte Mario (Rome 1940).

⁴ Colour digital orthophoto map of the province of Macerata on a scale of 1:10,000 with updated to the year 2010, created by the Agency for funding in agriculture (AGEA) following an agreement signed in 2010 with the Marche Region.

- map of the use of land⁵;
- regional environmental landscape plan⁶;
- geological map of the Marche Region and soil map of the provinces;
- SIRPaC database of the archaeological map for the province of Macerata;
- geographical/spatial unit regarding the areas subject to archaeological restriction;
- DB regarding historical roads.

1. *Geology and geomorphology*

This research is based on the assumption that the site vocation and the possibility of finding archaeological deposits largely also depend on the territory's geomorphology. The geomorphological data was crossed with the study of the area's historical evolution, as in the choice of areas allocated for various types of land occupation, accessibility of resources, above all water, the road system, proximity to an important urban centre or an important place of worship take on significant roles. Man's wishes constitute a primary source in the decision of which areas to settle in, respecting the potential that the environment offers and also via a selection of the most suitable places, that is not necessarily repeated in the same way in all eras and in all areas.

2. *Archaeological map database for the province of Macerata*

This database collects all the news regarding archaeological evidence found from bibliographical and archive collections (starting with the Marche Superintendency's archives)⁷. The CAM data collected in the 2000 and 2003 study campaigns, promoted directly by the Marche Region and in the 2007, 2010 and 2011 campaigns supported by the Province of Macerata, specifically by the catalogue centre of the province of Macerata Museum System association, was integrated with the data from recent research to develop the SIT. More specifically, the data have been implemented, with the results from studies carried out by the Department of Humanities, the former S.A.S.A. (Archaeological Science and

⁵ The Region's map of the use of land (stages completed 2007) on a scale of 1:10,000.

⁶ PPAR (Regional Environmental Landscape Plan), in detail: Tab. 2 – Morphological groups; Tab. 3A – Geological emergencies; Tab. 10 – Archaeological and historical remembrance places; Tab. 13 – Geomorphological emergencies; Tab. 17 – Archaeological sites of interest that have been outlined on maps. Future implementations may foresee the inclusion of the PRG (Regional General Plan) and the PTC (Territorial Coordination Plans), regarding the province of Macerata.

⁷ Archaeological pieces of evidence between the Palaeolithic and the Late Antique (600 AD).

Ancient History Department) at the University of Macerata⁸. Edited data from the University of Ghent's PVS project⁹ and the R.I.M.E.M. project directed by Professor Umberto Moscatelli from the University of Macerata¹⁰ have also been entered. Collaboration with the Archaeological Superintendency Department allowed the entry of information about all archaeological interventions digs and/or assistance up to the year 2016¹¹.

The creation of the known map, where the various findings have been located and visualised, was the premise on which the study was based. This action provided an analysis of archaeological knowledge in the Province of Macerata to date. There are different degrees of information present, determined by the type of archaeological finding (casual discovery, planned excavation, emergency excavation, reporting) and the intensity of the search. Direct surveys, with topographical recognition, that were conducted as part of diversified projects, were only carried out on some part of the provincial area and are more limited in internal areas where accessibility and visibility conditions are not as favourable due to the presence of elevations, steep slopes, woodland or uncultivated areas¹². The municipalities that fall into this area are Apiro, Belforte del Chienti, Caldarola, Camerino, Camporotondo di Fiastrone, Castelraimondo, Castelsantangelo sul Nera, Cessapalombo, Cingoli, Colmurano, Esanatoglia, Fiastra, Fiuminata, Gagliole, Loro Piceno, Matelica, Montecalvallo, Muccia, Penna San Giovanni, Pievetorina, Pioraco, Poggio San Vicino, Ripe San Ginesio, San Ginesio, Sarnano, Sant'Angelo in Pontano, Sefro, Serrapetrona, Serravalle di Chienti, Tolentino, Ussita, Valfornace and Visso (see the list of archaeological sites in tab. 1).

3. Archiving archaeological data in a GIS environment

The original archaeological data were registered in the SI (Archaeological Site) sheets (Si.mdb) in the SIRPaC software (*Sistema Informativo Regionale del Patrimonio Culturale*/Regional Information System of Cultural Heritage)

⁸ Capponi Perna 2012; Perna 2012a, 2012b, 2012c, 2014, 2015, 2018; Perna *et al.* 2014.

⁹ Percossi *et al.* 2006; Vermeulen *et al.* 2017.

¹⁰ Moscatelli 2013, 2015.

¹¹ It has also been possible to consult current archives at the Marche Archaeological Superintendency Department and documents kept in the Dossier archive.

¹² The municipalities involved in the systematic surveys to date are Cingoli (Calvelli 1999 and work thanks to the research by Alberto Calvelli, unpublished), Caldarola, Cessapalombo, San Ginesio, Valfornace (portions of the land in these municipalities are included in the R.I.M.E.M. project), Serravalle del Chienti and Camerino, the subject of surveys by Dr. Bonomi Ponzi (1992); Matelica with studies by Dr. Biocco (Biocco 2000, 2009); Castelraimondo, Camerino, Fiuminata and Pioraco that are involved in the PVS project; Tolentino and Loro Piceno included in the CAM project by the Department of Humanities of the University of Macerata.

developed with Microsoft Access from the Marche Region¹³. As this research is the continuation of the previous CAM project, which was developed in a Windows environment, we continued with this choice in order to ensure compatibility with the bodies participating in the project, such as the Marche Archaeology, Fine Arts and Landscape Superintendency Department, the Marche Region and the Department of Humanities at the University of Macerata. This research, therefore, does not use a dedicated relational database. The simple, rapid interface from the SIRPaC Programme, the verification procedures for the mandatory nature of fields and terminology dictionaries were used.

The SIRPaC, developed according to the standards of the ICCD (Central Institute for the Catalog and Documentation), allows the export of data in two tracks:

- *.trc for data transfer;
- *.cbc an extended path.

The site sheets (SI) for known archaeological presences in the provincial area provide multiple data which was selected by migrating information into the layer file attributes table, named Archaeological Map. We worked directly on the QGis database for implementation. Additional fields were entered on the layer file attributes table (fig. 1).

The selected information was about:

- the type of archaeological evidence, divided into type, macrotype, definition and description;
- geographic location divided into area it belongs to, municipality, location, placement reliability, coordinates.

Implementation concerned the chronological information that could not be directly migrated as the field provides for the possibility of repeating data entry if the archaeological evidence spans a very broad period of time¹⁴. Likewise, implementation of the tables was necessary to enter information about the depth of the archaeological presences, as the data, where present, was contained in free descriptions provided for by the SIRPaC database, therefore in a non-usable mode. All the archaeological data have been georeferenced according to the rate of reliability, which led to the choice of geometries to be used during data entry. To position the archaeological findings in the reference geomorphological context, it was necessary to separate the archaeological evidence that can reliably be located from the others. The sites with “precise” or “good” location were restored in their actual territorial size, using the polygonal graph when the extension exceeded a diameter of 30 metres. All the historical-archaeological data that does not lead to providing the perimeter of an archaeological area,

¹³ Perna 2001; Baldelli *et al.* 2004.

¹⁴ Archiving of the chronological data in a GIS environment is one of the most difficult aspects of managing data. On the structuring of chronological data in the SIRPaC programme and their use in a GIS environment, see Gnesi *et al.* 2007, pp. 122-125.

but which is useful historical-archaeological data for producing the potential map, are arranged as “finding reports” and are shown on a point graph (fig. 2).

4. Planning the SIT and the changeover to an AIS (Archaeological Information System)

Planning the SIT involved data entry, processing a spatial database and subsequent manipulation and analysis. The platform was created using QGIS 2.1.8. “Las Palmas”. QuantumGIS is a software free and open-source (FOSS)¹⁵. The software allows you to create, edit, visualise, analyse and publish geospatial information. Its main features are the management of geometrical data, the ability to georeference all the data, the ability to characterise all registered data and thematic or spatial search potential. The input files were managed in a geodatabase as a feature-class that can be exported in shapefile format (.shp)¹⁶.

The geodatabase contains:

- the description of the environment (basic map dataset, dataset orthophoto map, dataset use of land, dataset modern road system);
- geological description (geomorphology dataset, geopedology dataset, PAI dataset);
- archaeological description (archaeological map dataset, historical road dataset, dataset of areas subject to archaeological restriction).

All the system information has been processed and encoded for each thematism (horizontal mode) and for joint thematisms on the same geographic area (vertical mode). The purpose is to process all the information about the archaeological sites, the risk sources and the geomorphological characteristics in order to provide diversified information according to the different types of evaluation necessary. The Boolean overlapping of thematic maps, the calculation of statistic correlations between environmental information and sites and the predictive analyses combined into a single work tool suggest a definition of this AIS (Archaeological Information System) research.

Its principal functions are:

- information archiving and processing;
- production of information and data reading;
- support for analysing and making decisions or planning interventions.

¹⁵ The QGIS is a project of the Open Source Geospatial Foundation (OSGeo) and is under development by a developer community: <<https://qgis.org/>>, 01.04.2019.

¹⁶ Shapefile has three main files that contain both spatial information and the attributes of a database file. This format was made public by ESRI, the company that developed it, in order to provide data swapping between different systems. ESRI Shapefile technical description: <<http://www.esri.com/library/whitepapers/pdfs/shapefile.pdf>>, 01.04.2019.

5. *The archaeological risk map*

To process the evaluation of risk, it is necessary to outline the risk sources that lead to the vulnerability of findings. The actions that interact with archaeological sites are split into:

- anthropic actions (in this case, the following have been taken into consideration: construction expansion areas, areas close to main roads);
- natural actions (in this case, the following were taken into consideration: flooding areas, landslide areas).

The archaeological risk map has been organised on three levels. The first level provides an evaluation of the archaeological site's state and historical-cultural value¹⁷. The parameters taken into consideration refer to the type of site, its interpretability and its continuity. Specifically, archaeological sites have been categorised as follows:

- outcrop areas category vulnerability 1;
- areas with structures (civil, funerary, productive) category vulnerability 2;
- settlements category vulnerability 3;
- conservative habitats (municipium, colony) category vulnerability 4;

The second level identifies archaeological site exposure to the level of vulnerability, analysing the spatial distribution of sources of risk and their possible joint presence. It is thus possible to highlight site exposure to current anthropic or natural risk sources, and to highlight the dependency on one or more modern risk sources and consequently produce a scale of exposure to risk. The risk is at its maximum when all 4 risk sources are present and none of them is absent (figs. 3-5).

The third level evaluates the risk value for each site, through the simultaneous analysis of both the state of conservation and exposure to risk sources.

In other words, considering risk as the product between the site's state of conservation and its exposure to damage sources, it is possible to generate a list of sites, according to the risk to which they are subjected.

6. *The archaeological potential map*

A predictive approach was used with this analysis, that allowed the archaeological risk to be integrated with archaeological potential. This type

¹⁷ In this research, it was not possible to associate the concept of vulnerability with the archaeological site's state of conservation to the lack of data on the structural deterioration of archaeological evidence. For the census of the archaeological heritage of the province of Macerata in the Risk Map produced by the Istituto Superiore per la Conservazione (formerly ICR), please refer to the website <<http://www.cartadelrischio.it>>, 01.04.2019.

of map presumes an overall optimisation of the territory, as the identification of particular characters of the territory to be associated with a historical-archaeological study is at the basis of it. A cross-analysis of the archaeological presences and the morphological data was carried out for this purpose. The archaeological sites were selected according to their reliability rate; the evidence with exact or good location was taken into consideration for the study. The range of each site was expanded with a minimum buffer area allocated according to the type of site (fig. 6).

Historical roads and preserved centurial limits were considered in the dataset; in this case too, a minimum distance was created, a buffer zone of 50 metres for roads and 25 metres for centurial persistence.

A statistical spatial analysis was then carried out using the Kernel Density Estimation (KDE) method from the Point Pattern Analysis method, via the Q-GIS Heatmap tool, and the buffer analysis in order to create statistical maps that are related to the geophysical characteristics of the territory¹⁸.

With regards to the internal areas of the province of Macerata, only a small part of the Apennine territory was frequented or settled in (fig. 6). Erosions and hydrogeological instability in this mountainous area may have caused the moving or disappearance of archaeological deposits that are mostly on the surface. Archaeological data that is suitable for analysis and processing come from the municipalities of Camerino, Castelraimondo, Cingoli, Loro Piceno, Matelica, Muccia, San Severino Marche, Serravalle del Chienti, Tolentino, Valfornace. Archaeological information in these areas varies in type and chronology and the forms of population and use of the land can be associated with the distribution of some artificial elements of the landscape, such as the centurial main roads, road networks and natural internal penetration routes, as well as the presence of dominant centres, including the ones allocated for the practice of worship¹⁹. In the municipalities of Castelsantangelo sul Nera, Esanatoglia, Fiastra, Fiuminata, Montecavallo, Sefro, Ussita and Visso with their high altitude and elevations of more than 1000 metres above sea level, archaeographic data, which is limited and refers almost exclusively to news of casual findings rarely located with certainty, can be used to check the data produced in the initial analysis²⁰.

¹⁸ On Point Pattern Analysis see Hodder, Orton 1976, p. 30. For the determination of radius see Conolly, Lake 2006, p. 186. The method used has been adopted by the Mappa project: Fabiani *et al.* 2013.

¹⁹ See the list of archaeological sites on this matter. For details of each archaeological evidence and for the analysis of historical roads, please refer to the Province of Macerata Archaeological Map currently being printed. For sites of worship see Perna *et al.* 2013.

²⁰ To date, no archaeological sites are known for the municipalities of Bolognola, Gualdo and Monte San Martino.

7. Future outlook: the archaeological potential map as a governance tool

The archaeological potential map is an alternative to the so-called emergency archaeology, intended as a dig started up when the threat of destruction becomes clear for the archaeological item. This tool is a part of preventive archaeology actions, in fact, and corresponds to the contents of the document produced by the Ministerial Commission for creating the archaeological information system of Italian cities and their territories²¹.

At the same time, the traditional interpretation of archaeological landscape, and sets of sites is overcome, around which a minimum distance is recognised²² as the areas where archaeological presences are predictively located are restored alongside the known archaeological areas. The instrument is especially useful for internal areas where known archaeological testaments are conditioned primarily by the geophysical characteristics of this territory; characters that have affected direct archaeological research in the field over the years.

In order to include it in the territorial planning actions, each archaeological site that is analysed or “reconstructed” will be assigned, in accordance with the Marche Region and the Archaeological Superintendency Department, a protection category to be added to the ones already stated in the PPR (Regional Environmental Landscape Plan)²³. With regard to archaeological heritage, to date only the area of archaeological interest bound pursuant to art. 142/letter m of the Code of Cultural Heritage and Landscape are considered in the PPAR²⁴. The instruments of the local restriction, drawn up by the Ministry, are not sufficient for the actions of protection and safeguarding of the widespread archaeological heritage.

The area of archaeological respect, including a band of “conditioned protection”, aimed at correct understanding and safeguarding can be classified

²¹ On 24 January 2007, the Minister for Cultural Heritage of the time, Francesco Rutelli, appointed the preparatory commission for creating the Archaeological Information System of Italian cities and their Territories, chaired by Andrea Carandini, with the result being a final report that can be consulted in Carandini 2008 (pp. 199-207). On the one hand, the document highlights the lack of coordination among the various research activities aimed at creating archaeological territorial information supports (for further information on this matter, see Azzena 2009); on the other hand, it supports the necessary collaboration between universities, to which knowledge of protection and optimisation is transferred, the State to which protection “illuminated by knowledge, regulated by uniform procedures and aimed at optimisation and fruition” is transferred and the Regions and other territorial bodies for planning, optimisation and fruition. Collaboration already promoted by the Legislative Decree 42/2004, “Code of Cultural Heritage and Landscape”, art. 1, par. 3 and art. 5.

²² On this matter Brogiolo 2009.

²³ Law 8 August 1985, No. 431 and Regional Law 8 June 1987, No. 26. Approved by Administrative Resolution 3 November 1989, No. 97, currently under review.

²⁴ Legislative Decree 22 January 2004, No. 42, pursuant to art. 10 of Law 6 July 2002, No. 137. The Web Gis of Landscape Heritage has been available since February 2017 at the link <<http://ctr.regione.marche.it/BP/default.aspx>>, 01.04.2019.

according to the configuration and size in at least 4 subcategories, to which specific prescriptions should be associated:

- category a: archaeological complexes subject to restriction;
- category b: areas of ascertained and relevant archaeological size, areas with considerable presence of materials (settlements, necropolises, production and agricultural structures, portions of roads, aqueduct ruins), that have already been found or that are not yet touched by regular archaeological excavations;
- category c: concentrated areas of archaeological materials or report of findings; areas of respect or integration or safeguarding of paleo-habitats, sample areas for the conservation of particular statements of types and archaeological sites; areas with considerable archaeological risk;
- category d: areas with archaeological potential, divided in turn into high, medium and low potential.

The aim of this study is to provide all the necessary, useful data for the planning and management of administrative, management and tourist-cultural interventions. The archaeological potential map could, therefore, run alongside current tools, to provide additional information for a historical understanding of the territory and to favour territorial planning actions, the only useful instrument for safeguarding this widespread heritage. In this sense, the methodological tool that this research embraces is global archaeology that does not recognise the historical value of each site but of the anthropic landscape overall, abiding by the European Landscape Convention guidelines²⁵.

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²⁵ The landscape topic is at the centre of the Marche Region's activity agenda, also with regard to the obligation introduced by art. 156 of the Legislative Decree 42/2004 of checking the conformity of one's landscape plan with the requisites set by the same decree (art. 143). Additional activities for the updating of the current landscape plan concern the management of procedures (through four provincial committees) for finding new areas to place until landscape restriction, and the implementation of studies and further research on territory transformations in the "Territory and Landscape Observatory".

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Appendix

ARCHAEOLOGICAL MAP LAYER FIELDS	
MARK	DESCRIPTION
ID	sequential number
NCTN	identification number
CRBC	catalog number
PVCP	administrative area
PVCC	municipality
PVCL	locality
AFF	degree
OGTS	type
OGTM	macrotype
OGTD	definition
OGTX	depscription
VUL	vulnerability
QUOT	depth
DTPA	Paleolithic/Mesolithic
DTNE	Neolithic
DTEN	Eneolithic
DTBR	Bronze Age
DTFE1	Iron Age 1
DTFE2	Iron Age2
DTRE	Roman Republican Age
DTIM	Roman Imperial Age
DTTA	Late Antiquity

Tab. 1. List of archaeological sites, divided by municipality with a list of the types of evidence, damage, and degree of placement reliability

Types of evidence:

BS = bibliography source

AS = archive source

SAR = surface archaeological remains

S = structure

UC = urban center

TS = toponymy source

SET = settlement

Degree of placement:

G = good

E = exact

M = mediocre

A = approximate

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
2.001	Apiro	BS	1	G
2.002	Apiro	AS	1	E
2.003	Apiro	AS	0	G
2.004	Apiro	BS	1	G
2.005	Apiro	BS	3	G
2.006	Apiro	BS	1	G
2.007	Apiro	SAR	1	G
2.008	Apiro	AS	0	M
2.009	Apiro	AS	0	M
2.010	Apiro	AS	2	M
2.011	Apiro	AS	1	M
4.001	Belforte del Chienti	BS	1	M
4.002	Belforte del Chienti	BS	1	M
4.003	Belforte del Chienti	BS	2	M
4.004	Belforte del Chienti	BS	1	M
6.001	Caldarola	AS	1	A
6.002	Caldarola	SAR	1	A
6.003	Caldarola	BS	1	A
6.004	Caldarola	AS	1	A
6.005	Caldarola	AS	1	M
6.006	Caldarola	BS	1	M
6.007	Caldarola	SET	3	E
6.008	Caldarola	BS	2	E
6.009	Caldarola	S	2	A
6.010	Caldarola	SAR	2	E
6.011	Caldarola	AS	2	G
6.012	Caldarola	AS	1	G
6.013	Caldarola	SAR	1	G
6.014	Caldarola	BS	2	M
6.015	Caldarola	AS	1	A
6.016	Caldarola	AS	1	M
6.017	Caldarola	BS	1	G
6.018	Caldarola	BS	1	A
6.019	Caldarola	SAR	1	G
6.020	Caldarola	AS	2	M
6.021	Caldarola	SAR	1	A
6.022	Caldarola	AS	1	M
6.023	Caldarola	AS	1	M
7.001	Camerino	SAR	1	E

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
7.002	Camerino	SAR	1	E
7.003	Camerino	SAR	1	E
7.004	Camerino	SAR	1	E
7.005	Camerino	SAR	1	E
7.006	Camerino	S	2	G
7.007	Camerino	SAR	1	A
7.008	Camerino	SAR	1	E
7.009	Camerino	SAR	1	E
7.010	Camerino	SET	3	E
7.011	Camerino	SAR	1	G
7.012	Camerino	SAR	1	E
7.013	Camerino	SAR	1	E
7.014	Camerino	SAR	1	A
7.015	Camerino	SAR	1	E
7.016	Camerino	SET	3	G
7.017	Camerino	SAR	1	G
7.018	Camerino	SAR	1	G
7.019	Camerino	SAR	1	G
7.020	Camerino	BS	1	M
7.021	Camerino	AS	1	M
7.022	Camerino	SAR	1	G
7.023	Camerino	SAR	1	G
7.024	Camerino	SAR	1	G
7.025	Camerino	TS	2	A
7.026	Camerino	S	2	G
7.027	Camerino	BS	1	G
7.028	Camerino	S	2	G
7.029	Camerino	S	3	E
7.030	Camerino	BS	1	G
7.031	Camerino	SAR	1	G
7.032	Camerino	SAR	1	E
7.033	Camerino	AS	2	G
7.034	Camerino	UC	4	G
7.035	Camerino	SAR	1	G
7.036	Camerino	SAR	1	G
7.037	Camerino	BS	4	G
7.038	Camerino	AS	4	A
7.039	Camerino	SET	4	G
7.040	Camerino	SAR	1	A
7.041	Camerino	SET	3	G
7.042	Camerino	AS	3	G
7.043	Camerino	AS	1	G

Tab. 2. Table of archaeological map layer fields

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE	ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
7.044	Camerino	SAR	1	G	12.009	Cingoli	SAR	1	E
7.045	Camerino	BS	3	G	12.010	Cingoli	SAR	1	E
7.046	Camerino	BS	3	G	12.011	Cingoli	BS	1	E
7.047	Camerino	BS	3	A	12.012	Cingoli	AS	1	G
7.048	Camerino	BS	1	M	12.013	Cingoli	BS	1	M
7.049	Camerino	BS	3	G	12.014	Cingoli	SAR	1	A
7.050	Camerino	AS	3	G	12.015	Cingoli	SAR	1	G
7.051	Camerino	SAR	1	A	12.016	Cingoli	SAR	2	E
7.052	Camerino	AS	1	M	12.017	Cingoli	SAR	1	E
7.053	Camerino	AS	2	E	12.018	Cingoli	SAR	1	E
7.054	Camerino	AS	3	E	12.019	Cingoli	SAR	1	E
7.055	Camerino	AS	3	E	12.020	Cingoli	SAR	1	E
8.001	Camporotondo di Fiastrone	SAR	1	E	12.021	Cingoli	UC	4	E
8.002	Camporotondo di Fiastrone	SAR	1	M	12.022	Cingoli	BS	1	E
9.001	Castelraimondo	AS	1	E	12.023	Cingoli	SAR	1	E
9.002	Castelraimondo	BS	1	M	12.024	Cingoli	SAR	1	E
9.003	Castelraimondo	AS	1	M	12.025	Cingoli	SAR	1	E
9.004	Castelraimondo	BS	1	M	12.026	Cingoli	BS	2	E
9.005	Castelraimondo	SAR	1	E	12.027	Cingoli	SAR	1	E
9.006	Castelraimondo	SAR	1	E	12.028	Cingoli	BS	1	E
9.007	Castelraimondo	SAR	1	E	12.029	Cingoli	AS	2	G
9.008	Castelraimondo	AS	2	M	12.030	Cingoli	SAR	1	E
9.009	Castelraimondo	SAR	1	E	12.031	Cingoli	SAR	1	E
9.010	Castelraimondo	AS	2	M	12.032	Cingoli	SAR	1	E
9.011	Castelraimondo	SAR	1	E	12.033	Cingoli	S	3	E
9.012	Castelraimondo	SAR	1	E	12.034	Cingoli	SAR	1	E
9.013	Castelraimondo	SAR	1	E	12.035	Cingoli	SAR	1	E
9.014	Castelraimondo	SAR	1	E	12.036	Cingoli	SAR	1	E
9.015	Castelraimondo	AS	1	M	12.037	Cingoli	SAR	1	E
9.016	Castelraimondo	SAR	1	E	12.038	Cingoli	BS	1	E
9.017	Castelraimondo	SAR	1	E	12.039	Cingoli	SAR	1	E
9.018	Castelraimondo	SAR	1	E	12.040	Cingoli	BS	2	E
9.018	Castelraimondo	SAR	1	E	12.041	Cingoli	SAR	1	E
10.001	Castelsantangelo sul Nera	AS	2	M	12.042	Cingoli	BS	1	E
10.002	Castelsantangelo sul Nera	SAR	1	G	12.043	Cingoli	SAR	1	E
10.003	Castelsantangelo sul Nera	BS	1	M	12.044	Cingoli	SAR	1	E
11.001	Cessapalombo	AS	2	G	12.045	Cingoli	SAR	1	E
11.002	Cessapalombo	AS/BS	2	G	12.046	Cingoli	SAR	1	E
11.003	Cessapalombo	AS	1	M	12.047	Cingoli	SAR	1	E
11.004	Cessapalombo	AS	1	M	12.048	Cingoli	SAR	1	E
12.001	Cingoli	SAR	1	G	12.049	Cingoli	SAR	1	E
12.002	Cingoli	SAR	1	G	12.050	Cingoli	BS	1	G
12.003	Cingoli	AS	1	G	12.051	Cingoli	SAR	1	E
12.004	Cingoli	AS	2	G	12.052	Cingoli	SAR	1	E
12.005	Cingoli	AS	2	G	12.053	Cingoli	SAR	1	E
12.006	Cingoli	AS	2	G	12.054	Cingoli	SAR	1	E
12.007	Cingoli	AS	2	G	12.055	Cingoli	SAR	1	E
12.008	Cingoli	AS	1	G	12.056	Cingoli	SAR	1	G
					12.057	Cingoli	SAR	1	E
					12.058	Cingoli	SAR	1	E
					12.059	Cingoli	SAR	1	E
					12.060	Cingoli	SAR	1	E
					12.061	Cingoli	BS	1	G
					12.062	Cingoli	SAR	1	E

Tab. 2. Table of archaeological map layer fields

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE	ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
12.063	Cingoli	BS	1	E	12.117	Cingoli	SAR	1	E
12.064	Cingoli	BS	1	E	12.118	Cingoli	SAR	1	E
12.065	Cingoli	BS	1	E	12.119	Cingoli	SAR	1	E
12.066	Cingoli	SAR	1	E	12.120	Cingoli	SAR	1	G
12.067	Cingoli	SAR	1	E	12.121	Cingoli	SAR	1	E
12.068	Cingoli	SAR	1	E	12.122	Cingoli	SAR	1	E
12.069	Cingoli	SAR	1	E	12.123	Cingoli	SAR	1	E
12.070	Cingoli	SAR	1	E	12.124	Cingoli	SAR	1	G
12.071	Cingoli	SAR	1	E	12.125	Cingoli	SAR	1	E
12.072	Cingoli	SAR	1	E	12.126	Cingoli	SAR	1	E
12.073	Cingoli	SAR	1	E	12.127	Cingoli	SAR	1	E
12.074	Cingoli	SAR	1	E	12.128	Cingoli	SAR	1	E
12.075	Cingoli	SAR	1	E	12.129	Cingoli	SAR	1	E
12.076	Cingoli	SAR	1	E	12.130	Cingoli	SAR	1	E
12.077	Cingoli	SAR	1	E	12.131	Cingoli	SAR	1	E
12.078	Cingoli	SAR	1	E	12.132	Cingoli	SAR	1	E
12.079	Cingoli	SAR	1	E	12.133	Cingoli	SAR	1	E
12.080	Cingoli	UC	4	E	12.134	Cingoli	SAR	1	E
12.081	Cingoli	SAR	1	G	12.135	Cingoli	SAR	1	E
12.082	Cingoli	SAR	1	E	12.136	Cingoli	SAR	1	E
12.083	Cingoli	SAR	1	E	12.137	Cingoli	SAR	1	E
12.084	Cingoli	S	2	E	12.138	Cingoli	SAR	1	E
12.085	Cingoli	S	2	E	12.139	Cingoli	SAR	1	E
12.086	Cingoli	SAR	1	E	12.140	Cingoli	SAR	1	E
12.087	Cingoli	SAR	1	A	12.141	Cingoli	SAR	1	E
12.088	Cingoli	SAR	1	E	12.142	Cingoli	SAR	1	E
12.089	Cingoli	SAR	1	E	12.143	Cingoli	SAR	1	E
12.090	Cingoli	SAR	1	E	12.144	Cingoli	SAR	1	E
12.091	Cingoli	SAR	1	E	12.145	Cingoli	SAR	1	E
12.092	Cingoli	SAR	1	E	12.146	Cingoli	SAR	1	E
12.093	Cingoli	SAR	1	E	12.147	Cingoli	SAR	1	E
12.094	Cingoli	SAR	1	E	12.148	Cingoli	SAR	1	E
12.095	Cingoli	SAR	1	E	12.149	Cingoli	SAR	1	E
12.096	Cingoli	SAR	1	E	12.150	Cingoli	SAR	1	E
12.097	Cingoli	BS	1	E	12.151	Cingoli	SAR	2	E
12.098	Cingoli	AS	2	A	12.152	Cingoli	SAR	1	G
12.099	Cingoli	SAR	1	E	12.153	Cingoli	SAR	1	E
12.100	Cingoli	SAR	1	E	12.154	Cingoli	SAR	1	G
12.101	Cingoli	SAR	1	E	12.155	Cingoli	BS	1	E
12.102	Cingoli	SAR	1	E	12.156	Cingoli	SAR	1	E
12.103	Cingoli	SAR	1	E	12.157	Cingoli	SAR	2	E
12.104	Cingoli	SAR	1	E	12.158	Cingoli	SAR	1	G
12.105	Cingoli	SAR	1	E	12.159	Cingoli	SAR	1	E
12.106	Cingoli	SAR	1	E	12.160	Cingoli	BS	1	G
12.107	Cingoli	SAR	1	E	12.161	Cingoli	SAR	1	A
12.108	Cingoli	SAR	1	E	12.162	Cingoli	BS	1	E
12.109	Cingoli	SAR	1	E	12.163	Cingoli	SAR	1	E
12.110	Cingoli	SAR	1	E	12.164	Cingoli	SAR	1	E
12.111	Cingoli	SAR	1	E	12.165	Cingoli	SAR	1	E
12.112	Cingoli	SAR	1	E	12.166	Cingoli	SAR	1	E
12.113	Cingoli	SAR		E	12.167	Cingoli	SAR	1	E
12.114	Cingoli	SAR	1	E	12.168	Cingoli	SAR	1	E
12.115	Cingoli	SAR	1	E	12.169	Cingoli	SAR	1	E
12.116	Cingoli	SAR	1	E	12.170	Cingoli	SAR	1	E

Tab. 2. Table of archaeological map layer fields

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE	ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
14.001	Colmurano	SAR	1	E	20.001	Gagliole	AS	1	E
14.002	Colmurano	AS	2	G	20.002	Gagliole	AS	1	M
14.003	Colmurano	AS	1	E	20.003	Gagliole	SAR	1	E
14.004	Colmurano	SAR	1	E	20.004	Gagliole	SAR	1	E
14.005	Colmurano	AS	1	A	20.005	Gagliole	AS	1	G
14.006	Colmurano	BS	1	G	20.006	Gagliole	AS	1	A
14.007	Colmurano	SAR	1	E	20.007	Gagliole	SAR	1	E
14.008	Colmurano	BS	1	A	20.008	Gagliole	BS	1	E
14.009	Colmurano	BS	1	M	22.001	Loro Piceno	SAR	1	E
14.010	Colmurano	BS	1	A	22.002	Loro Piceno	BS	1	M
14.011	Colmurano	BS	2	E	22.003	Loro Piceno	AS	1	M
14.012	Colmurano	AS	2	G	22.004	Loro Piceno	BS	1	G
14.013	Colmurano	BS	1	G	22.005	Loro Piceno	SAR	1	E
14.014	Colmurano	BS	1	A	22.006	Loro Piceno	BS	1	G
14.015	Colmurano	BS	1	A	22.007	Loro Piceno	AS	1	M
14.016	Colmurano	BS	1	A	22.008	Loro Piceno	BS	1	G
16.001	Esanatoglia	SAR	1	G	22.009	Loro Piceno	BS	1	G
16.002	Esanatoglia	SAR	1	G	22.010	Loro Piceno	BS	1	A
16.003	Esanatoglia	SAR	1	E	22.011	Loro Piceno	AS	1	M
16.004	Esanatoglia	AS	2	E	22.012	Loro Piceno	BS	2	A
16.005	Esanatoglia	AS	2	G	22.013	Loro Piceno	BS	3	M
16.006	Esanatoglia	AS	1	E	22.014	Loro Piceno	SAR	1	E
16.007	Esanatoglia	AS	1	G	22.015	Loro Piceno	AS	1	M
16.008	Esanatoglia	BS	1	E	22.016	Loro Piceno	BS	2	G
16.009	Esanatoglia	AS	1	M	24.001	Matelica	BS	1	E
16.010	Esanatoglia	SAR	1	E	24.002	Matelica	SAR	1	A
16.011	Esanatoglia	SAR	1	G	24.003	Matelica	SAR	1	A
16.012	Esanatoglia	SAR	1	E	24.004	Matelica	SAR	1	G
16.013	Esanatoglia	AS	1	E	24.005	Matelica	SAR	1	E
16.014	Esanatoglia	AS	2	E	24.006	Matelica	SAR	1	E
16.015	Esanatoglia	AS	1	E	24.007	Matelica	SAR	2	E
16.016	Esanatoglia	AS	1	G	24.008	Matelica	SAR	1	G
16.017	Esanatoglia	AS	2	E	24.009	Matelica	AS	2	A
16.018	Esanatoglia	SET	3	E	24.010	Matelica	SAR	2	E
16.019	Esanatoglia	SAR	2	G	24.011	Matelica	SAR	1	A
16.020	Esanatoglia	SAR	1	E	24.012	Matelica	SAR	1	G
16.021	Esanatoglia	SAR	1	M	24.013	Matelica	SAR	2	G
16.022	Esanatoglia	SAR	1	M	24.014	Matelica	SAR	2	E
16.023	Esanatoglia	SAR	1	M	24.015	Matelica	SAR	1	A
16.024	Esanatoglia	SAR	1	G	24.016	Matelica	SAR	1	E
1.001	Fiastra	SAR	1	A	24.017	Matelica	SAR	1	M
17.001	Fiastra	BS	2	M	24.018	Matelica	SAR	1	E
17.002	Fiastra	BS	2	M	24.019	Matelica	AS/ BS	1	M
17.003	Fiastra	BS	2	A	24.020	Matelica	BS	1	A
17.004	Fiastra	SAR	1	M	24.021	Matelica	SAR	1	E
17.005	Fiastra	SAR	1	M	24.022	Matelica	SET	2	E
18.001	Fiordimonte	SAR	1	M	24.023	Matelica	AS/S	2	E
19.001	Fiuminata	AS	1	A	24.024	Matelica	SAR	1	G
19.002	Fiuminata	BS	2	G	24.025	Matelica	SAR	1	G
19.003	Fiuminata	SAR	1	E	24.026	Matelica	SAR	1	G
19.004	Fiuminata	SAR	1	E	24.027	Matelica	SAR	1	E
19.005	Fiuminata	SAR	1	E	24.028	Matelica	SAR	2	E
19.006	Fiuminata	BS	1	M	24.029	Matelica	BS	1	G
19.007	Fiuminata	SAR	1	A					

Tab. 2. Table of archaeological map layer fields

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE	ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
24.030	Matelica	AS	1	E	24.083	Matelica	AS	1	E
24.031	Matelica	SAR	1	E	24.084	Matelica	SAR	3	E
24.032	Matelica	BS	1	M	24.085	Matelica	SAR	2	E
24.033	Matelica	BS	2	E	24.086	Matelica	SET	2	E
24.034	Matelica	SAR	1	G	24.087	Matelica	SET	3	E
24.035	Matelica	SAR	1	E	24.088	Matelica	AS	3	E
24.036	Matelica	BS	2	E	24.089	Matelica	SET	2	E
24.037	Matelica	SAR	1	G	24.090	Matelica	AS	1	E
24.038	Matelica	SAR	1	G	24.091	Matelica	BS	1	E
24.039	Matelica	SAR	1	G	24.092	Matelica	BS	2	E
24.040	Matelica	SAR	1	G	24.093	Matelica	SAR	1	G
24.041	Matelica	SAR	1	E	24.094	Matelica	AS	1	M
24.042	Matelica	BS	1	A	24.095	Matelica	SAR	3	E
24.043	Matelica	AS	2	A	24.096	Matelica	SAR	1	A
24.044	Matelica	SAR	1	E	24.097	Matelica	SAR	1	G
24.045	Matelica	SAR	1	E	24.098	Matelica	SAR	1	G
24.046	Matelica	BS	2	A	24.099	Matelica	SAR	1	A
24.047	Matelica	AS	2	E	24.100	Matelica	SAR	1	A
24.048	Matelica	SAR	1	M	27.001	Monte Cavallo	SAR	1	A
24.049	Matelica	SAR	2	M	27.002	Monte Cavallo	SAR	1	A
24.050	Matelica	SAR	1	G	27.003	Monte Cavallo	SAR	1	A
24.051	Matelica	SAR	1	G	27.004	Monte Cavallo	SAR	1	A
24.052	Matelica	SAR	1	G	34.001	Muccia	SAR	1	G
24.053	Matelica	SAR	2	G	34.002	Muccia	SAR	1	E
24.054	Matelica	SAR	2	E	34.003	Muccia	SAR	1	G
24.055	Matelica	BS	1	E	34.004	Muccia	SAR	1	E
24.056	Matelica	S	3	E	34.005	Muccia	SAR	1	G
24.057	Matelica	AS	1	G	34.006	Muccia	SAR	1	G
24.058	Matelica	BS	1	M	34.007	Muccia	SAR	1	E
24.059	Matelica	AS	4	E	34.008	Muccia	SAR	1	E
24.060	Matelica	SET	3	E	34.009	Muccia	SET	4	E
24.061	Matelica	AS	2	G	34.010	Muccia	SAR	2	G
24.062	Matelica	BS	2	E	34.011	Muccia	SAR	1	A
24.063	Matelica	AS	2	G	34.012	Muccia	S	3	E
24.064	Matelica	BS	2	E	35.001	Penna San Giovanni	AS	2	G
24.065	Matelica	AS	2	E	35.002	Penna San Giovanni	AS	2	A
24.066	Matelica	AS/ SAR	1	E	35.003	Penna San Giovanni	BS	1	A
24.067	Matelica	AS	2	E	35.004	Penna San Giovanni	BS	1	A
24.068	Matelica	BS	2	E	35.005	Penna San Giovanni	AS	2	G
24.069	Matelica	SAR	1	G	35.006	Penna San Giovanni	BS	1	A
24.070	Matelica	SAR	1	A	35.007	Penna San Giovanni	AS	1	A
24.071	Matelica	SAR	1	A	35.008	Penna San Giovanni	BS	1	A
24.072	Matelica	SAR	1	E	35.009	Penna San Giovanni	AS	1	A
24.073	Matelica	BS	1	A	38.001	Pievetorina	SAR	2	G
24.074	Matelica	SAR	3	E	38.002	Pievetorina	SET	2	E
24.075	Matelica	BS	1	M	38.003	Pievetorina	SAR	1	E
24.076	Matelica	SAR	3	E					
24.077	Matelica	SAR	3	E					
24.078	Matelica	SAR	1	E					
24.079	Matelica	SAR	1	G					
24.080	Matelica	SAR	1	E					
24.081	Matelica	SAR	1	E					
24.082	Matelica	SET	3	E					

Tab. 2. Table of archaeological map layer fields

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE	ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
38.004	Pievetorina	SAR	1	E	39.027	Pioraco	SAR	1	E
38.006	Pievetorina	SAR	1	E	39.028	Pioraco	SAR	1	E
38.007	Pievetorina	SAR	1	G	39.029	Pioraco	SAR	1	E
38.008	Pievetorina	SAR	1	G	39.030	Pioraco	SAR	1	E
38.009	Pievetorina	SAR	1	G	39.031	Pioraco	AS/ BS	2	M
38.010	Pievetorina	SAR	1	G	39.032	Pioraco	SET	2	G
38.011	Pievetorina	AS	1	A	39.033	Pioraco	SAR	1	E
38.012	Pievetorina	SAR	1	E	39.034	Pioraco	SAR	1	E
38.013	Pievetorina	AS	1	G	39.035	Pioraco	SAR	1	E
38.014	Pievetorina	AS	1	G	39.036	Pioraco	SAR	1	E
38.015	Pievetorina	AS	1	G	40.001	Poggio San Vicino	BS	2	E
38.016	Pievetorina	SAR	1	E	40.002	Poggio San Vicino	SAR	1	E
38.017	Pievetorina	SAR	1	E	45.001	Ripe San Ginesio	BS	2	A
38.018	Pievetorina	SAR	1	A	45.002	Ripe San Ginesio	SAR	1	E
38.019	Pievetorina	SAR	1	G	45.003	Ripe San Ginesio	SAR	1	G
38.020	Pievetorina	SAR	1	A	45.004	Ripe San Ginesio	AS	1	G
38.021	Pievetorina	SAR	1	E	46.017	San Ginesio	AS	2	G
38.022	Pievetorina	SAR	2	G	46.011	San Ginesio	BS	2	G
38.023	Pievetorina	SAR	2	E	46.005	San Ginesio	BS	1	G
38.024	Pievetorina	S	2	E	46.002	San Ginesio	BS	1	M
38.025	Pievetorina	SAR	1	A	46.007	San Ginesio	BS	2	G
38.026	Pievetorina	SAR	1	G	46.004	San Ginesio	AS	2	G
38.027	Pievetorina	SAR	1	G	46.014	San Ginesio	BS	1	G
38.028	Pievetorina	BS	2	G	46.003	San Ginesio	AS/ BS	2	E
38.029	Pievetorina	BS	1	G	46.019	San Ginesio	SAR	1	E
38.030	Pievetorina	SAR	1	G	46.020	San Ginesio	AS/ BS	1	A
38.031	Pievetorina	SAR	2	E	46.001	San Ginesio	BS	1	G
38.005	Pievetorina	SAR	1	E	46.005	San Ginesio	BS/S	2	G
39.001	Pioraco	SAR	1	E	46.012	San Ginesio	BS	2	E
39.002	Pioraco	SAR	1	E	46.009	San Ginesio	AS	3	E
39.003	Pioraco	SAR	1	E	46.010	San Ginesio	BS	1	G
39.004	Pioraco	SAR	1	E	46.016	San Ginesio	SAR	1	E
39.005	Pioraco	SAR	1	E	46.015	San Ginesio	BS	2	M
39.006	Pioraco	SAR	1	E	46.013	San Ginesio	BS	2	G
39.007	Pioraco	SAR	1	E	46.006	San Ginesio	BS	2	M
39.008	Pioraco	SAR	1	E	46.021	San Ginesio	SAR	1	G
39.009	Pioraco	SAR	1	E	46.007	San Ginesio	SAR	1	G
39.010	Pioraco	SAR	1	E	46.018	San Ginesio	SAR	1	E
39.011	Pioraco	SAR	1	E	47.001	San Severino Marche	SET	4	E
39.012	Pioraco	S	3	E	47.002	San Severino Marche	SAR	1	G
39.013	Pioraco	S	4	E	47.003	San Severino Marche	S	3	E
39.014	Pioraco	S	4	G	47.004	San Severino Marche	AS	1	E
39.015	Pioraco	S	2	E	47.005	San Severino Marche	SAR	1	A
39.016	Pioraco	BS	2	G	47.006	San Severino Marche	AS	2	E
39.017	Pioraco	S	2	E					
39.018	Pioraco	BS	1	G					
39.019	Pioraco	S	3	E					
39.020	Pioraco	BS	2	M					
39.021	Pioraco	S	3	E					
39.022	Pioraco	SET	2	E					
39.023	Pioraco	BS	1	M					
39.024	Pioraco	SAR	1	E					
39.025	Pioraco	SAR	1	E					
39.026	Pioraco	SAR	1	E					

Tab. 2. Table of archaeological map layer fields

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE	ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
47.007	San Severino Marche	BS	1	G	47.035	San Severino Marche	BS	1	A
47.008	San Severino Marche	SAR	1	E	47.036	San Severino Marche	BS	2	G
47.009	San Severino Marche	SAR	1	E	47.037	San Severino Marche	BS	1	A
47.010	San Severino Marche	SAR	1	E	47.038	San Severino Marche	AS	1	A
47.011	San Severino Marche	SAR	1	E	47.039	San Severino Marche	SAR	1	E
47.012	San Severino Marche	BS	2	E	47.040	San Severino Marche	SAR	1	E
47.013	San Severino Marche	SAR	1	E	47.041	San Severino Marche	SAR	1	A
47.014	San Severino Marche	AS	1	E	47.042	San Severino Marche	SAR	1	A
47.015	San Severino Marche	BS	2	G	47.043	San Severino Marche	BS	2	G
47.016	San Severino Marche	AS	2	E	47.044	San Severino Marche	SAR	3	G
47.017	San Severino Marche	BS	3	E	47.045	San Severino Marche	BS	3	A
47.018	San Severino Marche	SAR	3	E	47.046	San Severino Marche	SAR	1	E
47.019	San Severino Marche	BS	1	M	47.047	San Severino Marche	SAR	1	E
47.020	San Severino Marche	BS	1	M	47.048	San Severino Marche	SAR	1	E
47.021	San Severino Marche	SAR	1	E	47.049	San Severino Marche	SAR	1	E
47.022	San Severino Marche	AS	1	E	47.050	San Severino Marche	SAR	1	E
47.023	San Severino Marche	AS	1	G	47.051	San Severino Marche	SAR	1	E
47.024	San Severino Marche	AS	2	G	47.052	San Severino Marche	SAR	1	E
47.025	San Severino Marche	SAR	1	A	47.053	San Severino Marche	BS	1	E
47.026	San Severino Marche	BS	1	A	47.054	San Severino Marche	BS	1	E
47.027	San Severino Marche	BS	1	M	47.055	San Severino Marche	BS	1	E
47.028	San Severino Marche	BS	1	M	47.056	San Severino Marche	BS	1	E
47.029	San Severino Marche	BS	1	A	47.057	San Severino Marche	SAR	1	E
47.030	San Severino Marche	BS	1	A	47.058	San Severino Marche	SAR	1	E
47.031	San Severino Marche	BS	1	M	47.059	San Severino Marche	SAR	3	E
47.032	San Severino Marche	AS	2	E	47.060	San Severino Marche	BS	3	E
47.033	San Severino Marche	AS	2	E	47.061	San Severino Marche	BS	1	E
47.034	San Severino Marche	AS	1	A	47.062	San Severino Marche	BS	1	E

Tab. 2. Table of archaeological map layer fields

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE	ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
47.063	San Severino Marche	BS	1	E	47.091	San Severino Marche	AS	2	A
47.064	San Severino Marche	BS	1	E	47.092	San Severino Marche	AS	1	M
47.065	San Severino Marche	BS	2	E	47.093	San Severino Marche	BS	1	M
47.066	San Severino Marche	SAR	1	E	47.094	San Severino Marche	BS	1	A
47.067	San Severino Marche	SAR	1	E	47.095	San Severino Marche	BS	1	M
47.068	San Severino Marche	SAR	1	E	47.096	San Severino Marche	BS	1	M
47.069	San Severino Marche	BS	2	E	47.097	San Severino Marche	BS	1	M
47.070	San Severino Marche	SAR	1	E	47.098	San Severino Marche	BS	1	M
47.071	San Severino Marche	BS	1	E	47.099	San Severino Marche	BS	1	M
47.072	San Severino Marche	SAR	2	E	47.100	San Severino Marche	SET	2	M
47.073	San Severino Marche	SAR	1	E	47.101	San Severino Marche	S	2	M
47.074	San Severino Marche	AS	1	G	47.102	San Severino Marche	AS	1	M
47.075	San Severino Marche	BS	1	G	47.103	San Severino Marche	AS	3	E
47.076	San Severino Marche	AS	2	E	47.104	San Severino Marche	AS	1	E
47.077	San Severino Marche	BS	1	A	47.105	San Severino Marche	AS	1	E
47.078	San Severino Marche	BS	1	A	48.039	Sant'Angelo in Pontano	SAR	1	M
47.079	San Severino Marche	SAR	1	E	48.001	Sant'Angelo in Pontano	BS	1	G
47.080	San Severino Marche	SAR	1	E	48.002	Sant'Angelo in Pontano	BS	1	G
47.081	San Severino Marche	SAR	1	E	48.003	Sant'Angelo in Pontano	BS	1	M
47.082	San Severino Marche	SAR	1	E	48.004	Sant'Angelo in Pontano	BS	1	G
47.083	San Severino Marche	SAR	1	E	48.005	Sant'Angelo in Pontano	BS	1	G
47.084	San Severino Marche	SAR	1	E	48.006	Sant'Angelo in Pontano	BS	1	G
47.085	San Severino Marche	SAR	1	E	48.007	Sant'Angelo in Pontano	BS	1	G
47.086	San Severino Marche	SET	2	E	48.008	Sant'Angelo in Pontano	BS	1	G
47.087	San Severino Marche	BS	2	E	48.009	Sant'Angelo in Pontano	BS	1	G
47.088	San Severino Marche	BS	1	M	48.010	Sant'Angelo in Pontano	BS	2	E
47.089	San Severino Marche	BS	1	M	48.011	Sant'Angelo in Pontano	BS	1	G
47.090	San Severino Marche	BS	2	A	48.012	Sant'Angelo in Pontano	BS	1	G

Tab. 2. Table of archaeological map layer fields

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE	ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
48.013	Sant'Angelo in Pontano	BS	1	G	48.042	Sant'Angelo in Pontano	BS	1	G
48.014	Sant'Angelo in Pontano	BS	1	G	48.043	Sant'Angelo in Pontano	BS	1	G
48.015	Sant'Angelo in Pontano	BS	1	G	48.044	Sant'Angelo in Pontano	BS	1	G
48.016	Sant'Angelo in Pontano	BS	1	G	48.046	Sant'Angelo in Pontano	BS	1	G
48.017	Sant'Angelo in Pontano	BS	1	G	48.047	Sant'Angelo in Pontano	BS	1	G
48.018	Sant'Angelo in Pontano	BS	1	G	48.048	Sant'Angelo in Pontano	BS	1	G
48.019	Sant'Angelo in Pontano	BS	1	G	48.049	Sant'Angelo in Pontano	BS	1	E
48.020	Sant'Angelo in Pontano	BS	1	M	48.050	Sant'Angelo in Pontano	BS	1	G
48.021	Sant'Angelo in Pontano	BS	1	G	48.051	Sant'Angelo in Pontano	BS	1	G
48.022	Sant'Angelo in Pontano	BS	1	G	48.052	Sant'Angelo in Pontano	BS	1	G
48.023	Sant'Angelo in Pontano	BS	1	G	48.053	Sant'Angelo in Pontano	BS	1	G
48.024	Sant'Angelo in Pontano	BS	1	G	48.054	Sant'Angelo in Pontano	BS	2	G
48.025	Sant'Angelo in Pontano	BS	1	G	48.055	Sant'Angelo in Pontano	BS	1	G
48.026	Sant'Angelo in Pontano	BS	2	G	48.056	Sant'Angelo in Pontano	BS	3	E
48.027	Sant'Angelo in Pontano	BS	1	G	48.057	Sant'Angelo in Pontano	BS	2	G
48.028	Sant'Angelo in Pontano	BS	1	G	48.058	Sant'Angelo in Pontano	BS	1	G
48.029	Sant'Angelo in Pontano	BS	1	G	48.059	Sant'Angelo in Pontano	BS	1	G
48.030	Sant'Angelo in Pontano	BS	1	G	48.060	Sant'Angelo in Pontano	BS	1	G
48.031	Sant'Angelo in Pontano	BS	1	G	48.061	Sant'Angelo in Pontano	BS	1	G
48.032	Sant'Angelo in Pontano	BS	1	G	48.045	Sant'Angelo in Pontano	SAR	1	E
48.033	Sant'Angelo in Pontano	BS	1	G	49.001	Sarnano	BS	1	M
48.034	Sant'Angelo in Pontano	BS	1	G	49.002	Sarnano	AS	2	E
48.035	Sant'Angelo in Pontano	BS	1	G	49.003	Sarnano	AS	1	E
48.036	Sant'Angelo in Pontano	BS	2	G	49.004	Sarnano	BS	1	M
48.037	Sant'Angelo in Pontano	BS	1	G	49.005	Sarnano	AS	2	M
48.038	Sant'Angelo in Pontano	BS	1	G	49.006	Sarnano	AS	1	M
48.040	Sant'Angelo in Pontano	SAR	1	E	50.001	Sefro	S	3	E
48.041	Sant'Angelo in Pontano	BS	1	E	50.002	Sefro	S	3	E
					50.003	Sefro	S	3	G
					51.001	Serrapetrona	BS	1	M
					51.002	Serrapetrona	BS	1	M
					51.003	Serrapetrona	BS	1	M
					51.004	Serrapetrona	BS	1	A
					51.005	Serrapetrona	BS	1	A
					51.006	Serrapetrona	BS	1	M
					51.007	Serrapetrona	BS	1	M

Tab. 2. Table of archaeological map layer fields

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE	ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
51.008	Serrapetrona	AS	1	A	52.029	Serravalle di Chienti	SET	3	G
52.001	Serravalle di Chienti	SAR	1	G	52.030	Serravalle di Chienti	SAR	1	E
52.002	Serravalle di Chienti	SAR	1	G	52.031	Serravalle di Chienti	SAR	1	E
52.003	Serravalle di Chienti	SAR	1	E	53.001	Tolentino	BS	1	A
52.004	Serravalle di Chienti	SAR	1	E	53.002	Tolentino	AS	2	A
52.005	Serravalle di Chienti	S	2	E	53.003	Tolentino	AS	2	G
52.006	Serravalle di Chienti	SAR	1	G	53.004	Tolentino	AS	1	A
52.007	Serravalle di Chienti	SAR	1	E	53.005	Tolentino	SET	3	A
52.008	Serravalle di Chienti	S	3	E	53.006	Tolentino	AS	2	A
52.009	Serravalle di Chienti	SAR	1	G	53.007	Tolentino	AS	1	M
52.010	Serravalle di Chienti	SAR	3	E	53.008	Tolentino	SAR	1	E
52.011	Serravalle di Chienti	SAR	2	E	53.009	Tolentino	SAR	1	E
52.012	Serravalle di Chienti	SAR	1	E	53.010	Tolentino	SAR	1	G
52.013	Serravalle di Chienti	SAR	1	E	53.011	Tolentino	SAR	1	E
52.014	Serravalle di Chienti	SAR	1	E	53.012	Tolentino	SAR	1	G
52.015	Serravalle di Chienti	SET	4	E	53.013	Tolentino	2 S	2	G
52.016	Serravalle di Chienti	SAR	2	G	53.014	Tolentino	SAR	1	E
52.017	Serravalle di Chienti	SAR	1	E	53.015	Tolentino	2 S	2	G
52.018	Serravalle di Chienti	SAR	1	E	53.016	Tolentino	SAR	1	E
52.019	Serravalle di Chienti	SAR	1	E	53.017	Tolentino	SAR	2	G
52.020	Serravalle di Chienti	SAR	1	E	53.018	Tolentino	SAR	1	G
52.021	Serravalle di Chienti	SAR	1	E	53.019	Tolentino	SAR	1	E
52.022	Serravalle di Chienti	SAR	1	E	53.020	Tolentino	SAR	1	G
52.023	Serravalle di Chienti	SAR	1	E	53.021	Tolentino	SAR	1	G
52.024	Serravalle di Chienti	S	3	E	53.022	Tolentino	SAR	1	E
52.025	Serravalle di Chienti	SAR	2	G	53.023	Tolentino	SAR	1	G
52.026	Serravalle di Chienti	S	3	G	53.024	Tolentino	BS	1	E
52.027	Serravalle di Chienti	SAR	1	G	53.025	Tolentino	SAR	1	E
52.028	Serravalle di Chienti	SAR	2	G	53.026	Tolentino	SAR	1	E
					53.027	Tolentino	SAR	1	E
					53.028	Tolentino	SAR	1	E
					53.029	Tolentino	SAR	1	G
					53.030	Tolentino	S	2	G
					53.031	Tolentino	SAR	1	G
					53.032	Tolentino	SAR	1	G
					53.033	Tolentino	SAR	1	G
					53.034	Tolentino	SAR	1	E
					53.035	Tolentino	SAR	1	G
					53.036	Tolentino	BS	1	G
					53.037	Tolentino	AS	2	A
					53.038	Tolentino	BS	1	G
					53.039	Tolentino	S	2	E
					53.040	Tolentino	SET	2	A
					53.041	Tolentino	AS	2	G
					53.042	Tolentino	SET	2	E
					53.043	Tolentino	AS	2	M
					53.044	Tolentino	SET	2	G
					53.045	Tolentino	SET	2	A
					53.046	Tolentino	SAR	1	M
					53.047	Tolentino	SAR	1	M
					53.048	Tolentino	UC	4	E

Tab. 2. Table of archaeological map layer fields

ID	MUNICIPALITY	TYPE	DAMAGE	DEGREE
53.049	Tolentino	AS	1	E
53.050	Tolentino	AS	2	E
53.051	Tolentino	S	3	E
53.052	Tolentino	S	3	E
53.053	Tolentino	AS	2	G
53.054	Tolentino	BS	1	A
53.055	Tolentino	BS	1	M
53.056	Tolentino	AS	1	E
53.057	Tolentino	AS	2	G
53.058	Tolentino	AS	2	G
53.059	Tolentino	SET	2	A
53.060	Tolentino	AS	2	A
53.061	Tolentino	AS	2	M
53.062	Tolentino	BS	2	A
53.063	Tolentino	AS	1	A
53.064	Tolentino	SAR	1	M
53.065	Tolentino	BS	1	G
56.001	Ussita	AS	2	M
58.001	Valfornace	SAR	1	G
58.002	Valfornace	SET	3	A
58.003	Valfornace	SAR	2	G
58.004	Valfornace	SAR	1	G
58.005	Valfornace	BS	1	G
58.006	Valfornace	SET	3	G
58.007	Valfornace	SAR	2	G
58.008	Valfornace	SET	2	A
58.009	Valfornace	SAR	1	A
58.010	Valfornace	SAR	1	G
58.011	Valfornace	SAR	1	E
58.012	Valfornace	S	3	E
58.013	Valfornace	SAR	1	M
58.014	Valfornace	SAR	1	E
58.015	Valfornace	SAR	1	G
58.016	Valfornace	SET	2	E
58.017	Valfornace	AS	1	G
58.018	Valfornace	SAR	1	E
58.019	Valfornace	AS	1	E
58.020	Valfornace	SAR	1	E
58.021	Valfornace	SAR	2	G
58.022	Valfornace	TS	1	A
57.001	Visso	AS	1	A
57.002	Visso	AS	2	G
57.003	Visso	SAR	1	A
57.004	Visso	AS	1	E
57.005	Visso	AS	3	M
57.006	Visso	AS	2	E
57.007	Visso	AS	1	A
57.008	Visso	AS/ BS	3	G
57.009	Visso	AS	1	A

Tab. 2. Table of archaeological map layer fields

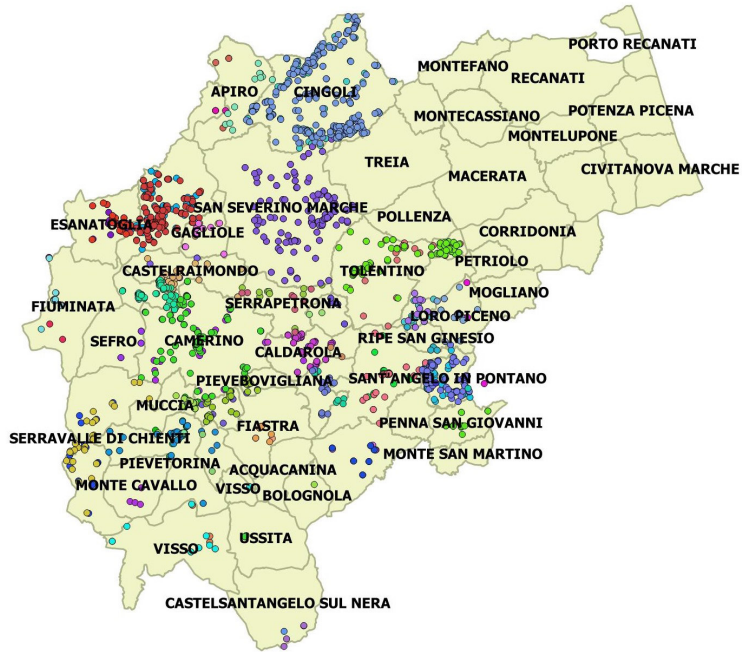


Fig 1. Archaeological map of the province of Macerata (internal areas sector)

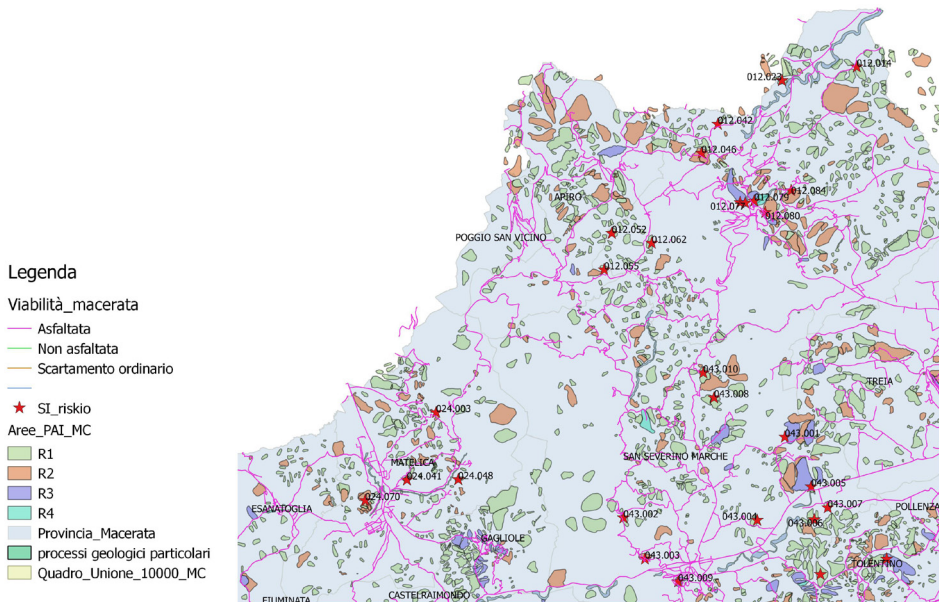


Fig. 2. Map showing the archaeological site's exposure to the level of risk (territorial area A: Esanatoglia)

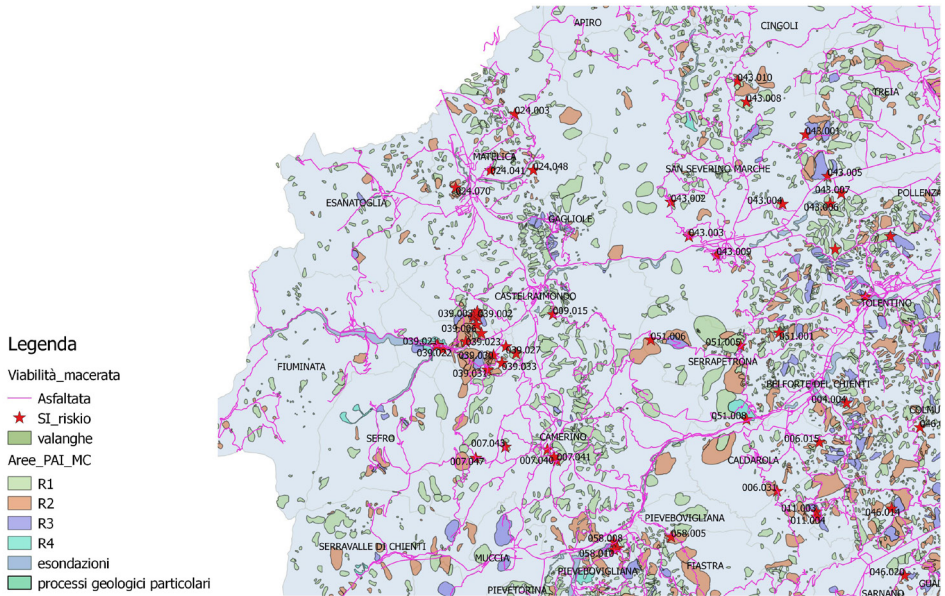


Fig. 3. Map showing the archaeological site's exposure to the level of risk (territorial area B: Fiuminata)

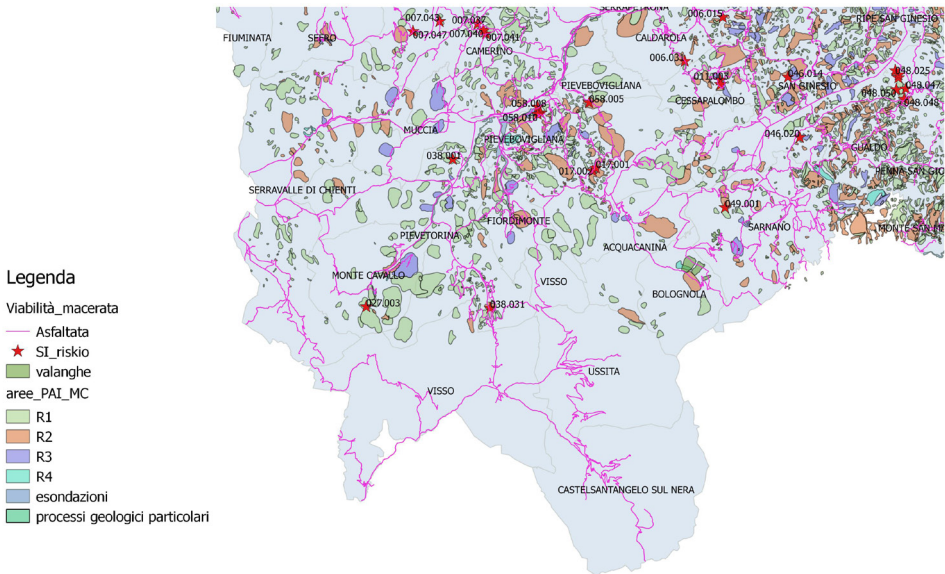


Fig. 4. Map showing the archaeological site's exposure to the level of risk (territorial area C: Serravalle del Chienti)

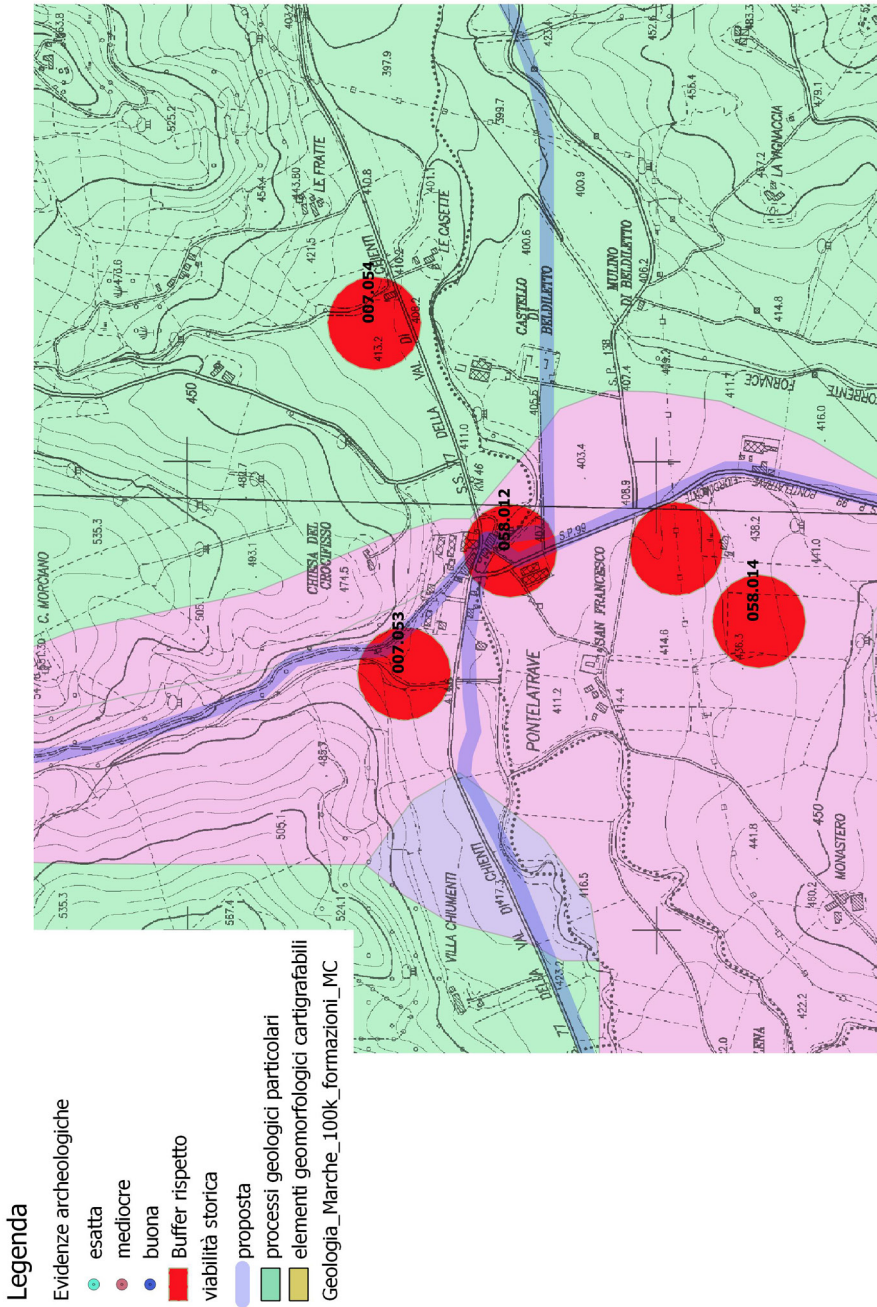


Fig. 5. Geological map with return of archaeological evidence and relative minimum buffers

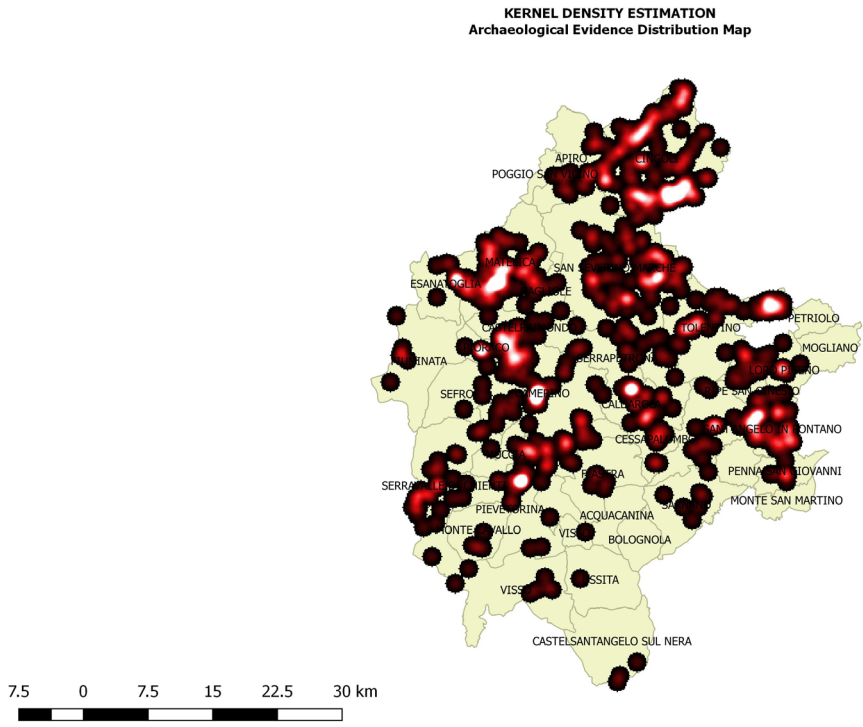


Fig. 6. Archaeological evidence distribution map

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