Journal of open archaeology data

NeoNet Dataset. Radiocarbon Dates for the Late Mesolithic/Early Neolithic Transition in the North Central-Western Mediterranean Basin

DATA PAPER

THOMAS HUET
MIRIAM CUBAS
JUAN F. GIBAJA
F. XAVIER OMS
NICCOLÒ MAZZUCCO

Author affiliations can be found in the back matter of this article

ubiquity press

ABSTRACT

The NeoNet dataset aims to provide a new research tool for the study of the pioneer farming front (i.e. Neolithisation) in the North Central and North Western Mediterranean basin by focusing on the period of transition from a foraging to a farming economy (ca. 7000 to 3500 cal BC). The complete dataset is formed by the elencoc14.tsv file, a dataframe with tab-separated values, and a connex dataframe: thesaurus.tsv. The dataset contains 2,506 radiocarbon dates from 526 archaeological sites and 1,769 different archaeological records (stratigraphic units, structures, negative features, hearths, etc.). To ensure and facilitate the reuse of the radiocarbon dates, NeoNet's data structure is based on the Euroevol database layout. Among other fields, particular attention has been paid to homogenisation of the laboratory code, the archaeological context, and the references, in order to facilitate further data extractions. Indeed, the dataset is linked to an opensource R Shiny interactive web app (NeoNet app), and a getter function (R package c14bazAAr, R function get_neonet).

CORRESPONDING AUTHOR:

Niccolò Mazzucco

Università di Pisa, Dipartimento di Civiltà e Forme del Sapere, IT

niccolo.mazzucco@unipi.it

KEYWORDS:

Radiocarbon dates; Mesolithic; Neolithic; Mediterranean archaeology

TO CITE THIS ARTICLE:

Huet T, Cubas M, Gibaja JF, Oms FX, Mazzucco N 2022 NeoNet Dataset. Radiocarbon Dates for the Late Mesolithic/Early Neolithic Transition in the North Central-Western Mediterranean Basin. *Journal of Open Archaeology Data,* 10: 3, pp. 1–8. DOI: *https://doi.org/10.5334/joad.87*

(1) OVERVIEW

CONTEXT

Between the seventh and the sixth millennia cal BC, Europe experienced unprecedented changes with the arrival of migrant communities of Near Eastern/Anatolian origin bearing pottery, domesticated plants and animals. This phenomenon, known as Neolithisation, is associated not only with the introduction of technological innovations and domesticates, but with large-scale transformations that, in a few centuries, reshaped the cultural, demographic, and environmental patterns of the European continent.

From the Aegean, the Neolithic spread towards the West along two main routes of diffusion: a continental one, via the Central and Eastern Balkans, and a coastal one, via the Mediterranean shores [1]. This latter route is mainly associated with the groups bearing Impressed Ware pottery, which in a few centuries moved from western Greece to the southern façade of the Iberian Peninsula, along the Adriatic and Tyrrhenian coasts. During this expansive process, several transformations occurred simultaneously with sedentarisation, including the emergence of a new pottery decorative style [2], the adoption of new types of stone tools [3], the domestication of new plants and animals [4], the creation of new interaction zones and exchange networks [5, 6], changes in the symbolic sphere [7], etc. The contact with groups of local hunter-gatherers might have played a role in this process of change [8, 9]. Several scenarios of interactions between farmers and foragers have been suggested [10]. Possible technical transfers between the two have been hypothesised, for example, for the adoption of specific flaking techniques and/or specific types of hunting tools [11–13]. Recently, aDNA analysis has suggested that genetic admixture between local hunter-gatherers and migrant Neolithic groups occurred in certain regions [14]. However, the archaeological evidence is not unproblematic; the study of the interactions between Neolithic and Mesolithic populations remains a complex subject of research that, first of all, needs a solid chronological framework. During the last decades, hundreds of radiocarbon dates have been published as an outcome of the research on the Mesolithic-Neolithic transition. Several recent papers have provided analysis of radiocarbon datasets for this chronological and geographical area [15–20]. However, raw radiocarbon data is often presented in the form of a large datasheet and exploring the data is not trivial. In addition, published datasets are often biased, as radiocarbon dates are previously filtered by authors on the basis of different criteria (type of dated sample, standard deviation of the sample, data reliability, etc.). In order to overcome such limitations and to provide a user-friendly, open-access, and updated tool for exploring the radiocarbon data, we have built the NeoNet app. NeoNet is an online geospatial dataset of radiocarbon dates for the Mesolithic-Neolithic transition in the Central and Western Mediterranean, built to facilitate the selection of absolute dates (C14 dates) by providing selection tools at spatial, chronological and cultural level.

This dataset was developed as part of NeoNet, a thematic research network funded by the Spanish *Plan Estatal de Investigación Científica y Técnica y de Innovación 2017–2020: Acciones de dinamización "Redes de Investigación"* in the framework of the Spanish Program for the Generation of Knowledge and Scientific and Technological development for the Spanish System of Research, Development and Innovation of the Ministry of Science, Innovation and Universities (ref. RED2018-102382-Tand PID2020-112513RB-I00). The project (*https://redneonet.com/en/home-en/*) reunites scholars from different institutions across the entire Mediterranean area in order to create a space for discussion about the origin, development and consolidation of Neolithic communities around the Mediterranean basin. One of the goals of the NeoNet network is to create common practices in the publication, selection, and interpretation of radiocarbon dates.

The dataset integrates datasets of radiocarbon dates already published in the web [18, 21–25], including online datasets like Euroevol and Radon, but also data from the personal archives of the authors. All radiocarbon dates have been individually revised, and many cases of missing or erroneous information have been corrected. NeoNet integrates and completes recent geospatial datasets for other regions and/or chronological periods, contributing to create open access repositories for radiocarbon dates [23–25].

Spatial coverage

The spatial coverage covers the North Central-Western Mediterranean basin (main rivers: Ebro, Rhône, Po, etc.) (***Figure 1***). This area attests the diffusion of the Impresso-Cardial Complex (ICC). However, in future versions the dataset will be enlarged to the entire Mediterranean Basin, encompassing from the Eastern Mediterranean to the Atlantic coasts of Portugal.

The minimum bounding box of the region of interest is:

Northern boundary: +48.2°N
Southern boundary: +35.8°N
Eastern boundary: +5.7°E
Western boundary: +23.2°E

Temporal coverage

The temporal coverage starts in 9000 BP and stops at 5000 BP (ca. 7000–3500 cal BC) in order to cover the latest hunter-gatherers' lifestyle (i.e. Late Mesolithic and its regional *facies*) to the first testimonies of the farming economy (i.e. Early Neolithic and its regional *facies*) (***Figure 2***).

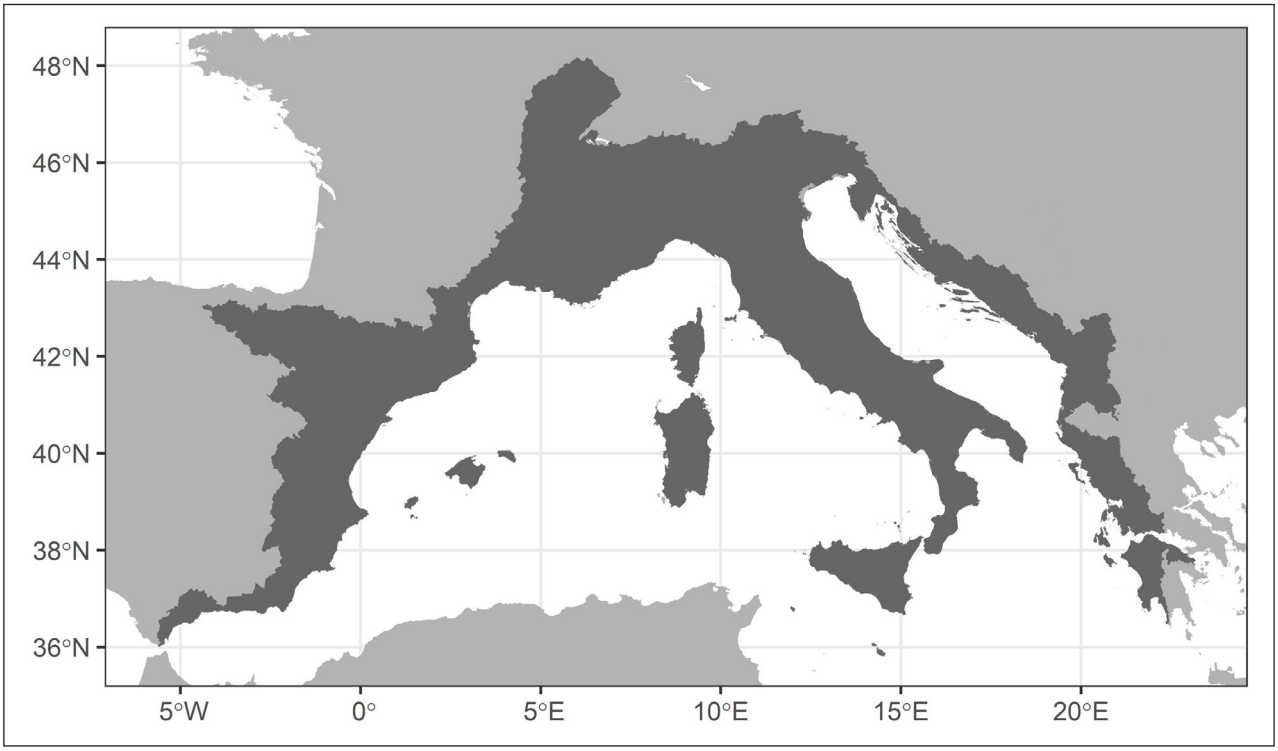


Figure 1 Region of interest (in dark grey): river basins in the North Central and North Western Mediterranean.

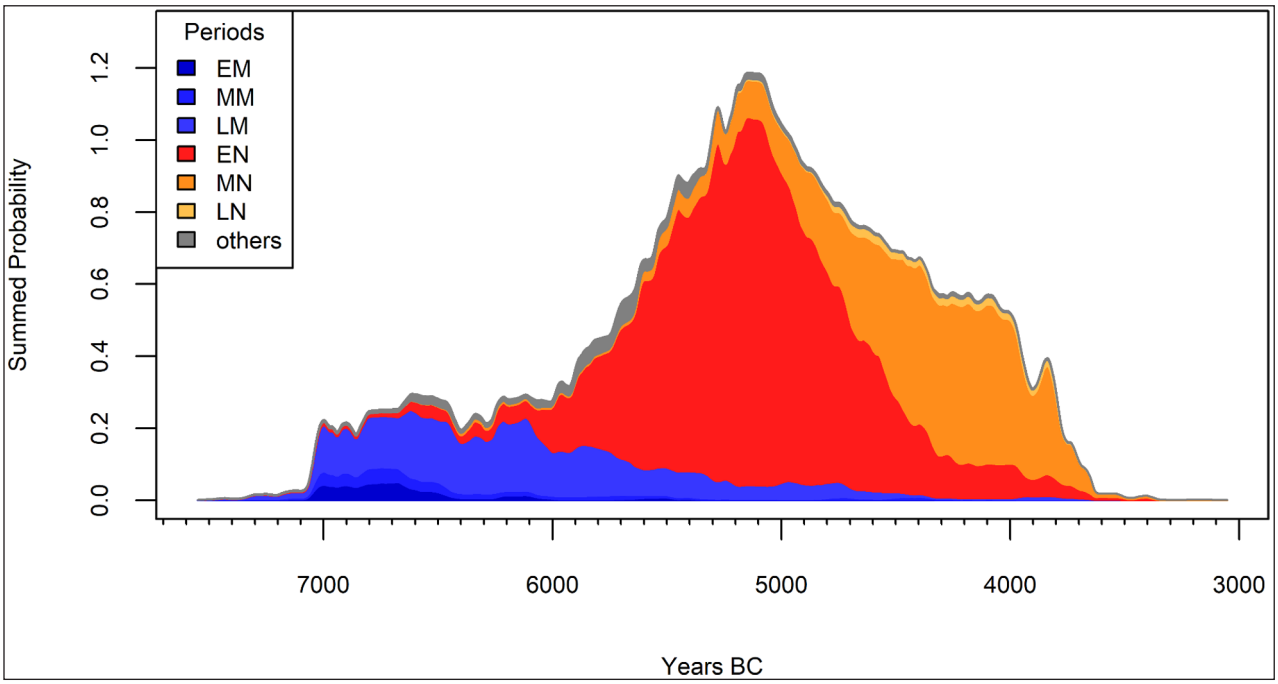


Figure 2 Summed probability densities of the NeoNet dataset with 2,452 studied radiocarbon dates attributed to different periods: EM (Early Mesolithic), MM (Middle Mesolithic), LM (Late Mesolithic), EN (Early Neolithic), MN (Middle Neolithic), LN (Late Neolithic). The period 'others' gathers radiocarbon dates attributed to uncertain periods: UM (Undefined Mesolithic), LMEN (Late Mesolithic/Early Neolithic), MNLN (Middle Neolithic/Late Neolithic), UN (Undefined Neolithic), N/A (not available).

(2) METHODS

The creation of the NeoNet dataset was enabled by a collaborative synthesis of published radiocarbon dates between the Eastern Adriatic and the Levantine Coast of the Iberian Peninsula. Each author has taken charge of a part of the whole dataset: Adriatic western Balkans and Italy (NM), South of France (TH), and eastern Spain (MC, JFG, XO). The dataset has focused on information with a high reuse potential (conventional naming, URLs, etc.). The data structure has been devised to be reused in NoSQL databases where columns "SiteName" and "LabCode" could be used as unique keys. Additional data on cultural traits

and/or other contextual information can therefore be added in a second step.

STEPS

The desk-based research work followed several steps: search for data resources, data gathering, data enhancement, and dataset publishing. The search for radiocarbon data resources relied on the authors' personal archives and their scientific monitoring. Data integration consisted of gathering radiocarbon information from various publications (site monographs, radiocarbon inventories, online databases, etc.). These data were collected automatically (R computer scripts) or manually, and stored in a single dataset (data frame). This dataset was cleaned up (quality control), and the verified records were recast to form the current public NeoNet dataset.

QUALITY CONTROL

The quality control consisted of collecting and aligning the various radiocarbon publications. These sources were matched against each other using scripting routines to enhance relevant information, modify and summarize the sources' datasets (***Figure 3***). In particular, this method has succeeded in filling in gaps in particular fields (e.g., Source A provides good information on the stratigraphic context, but Source B provides good information on the type of material sampled) and to clarify information where it may be missing (e.g., the URL of a bibliographic reference). Other scripting routines have been used for the standardization of column names and values according to current standards, and duplicate suppression. In the case of duplicates with conflicting information, the source publication has been taken as reference.

CONSTRAINTS

The dataset structure has been voluntarily reduced to radiocarbon core fields in order to reduce non available (n/a) data. All fields and all cells have been checked. When no values were available (n/a), we fill the cells with this value. Currently, the n/a values represent 2% of the whole dataset and are largely concentrated in the "PhaseCode", the "Material", and the "Material Species" fields.

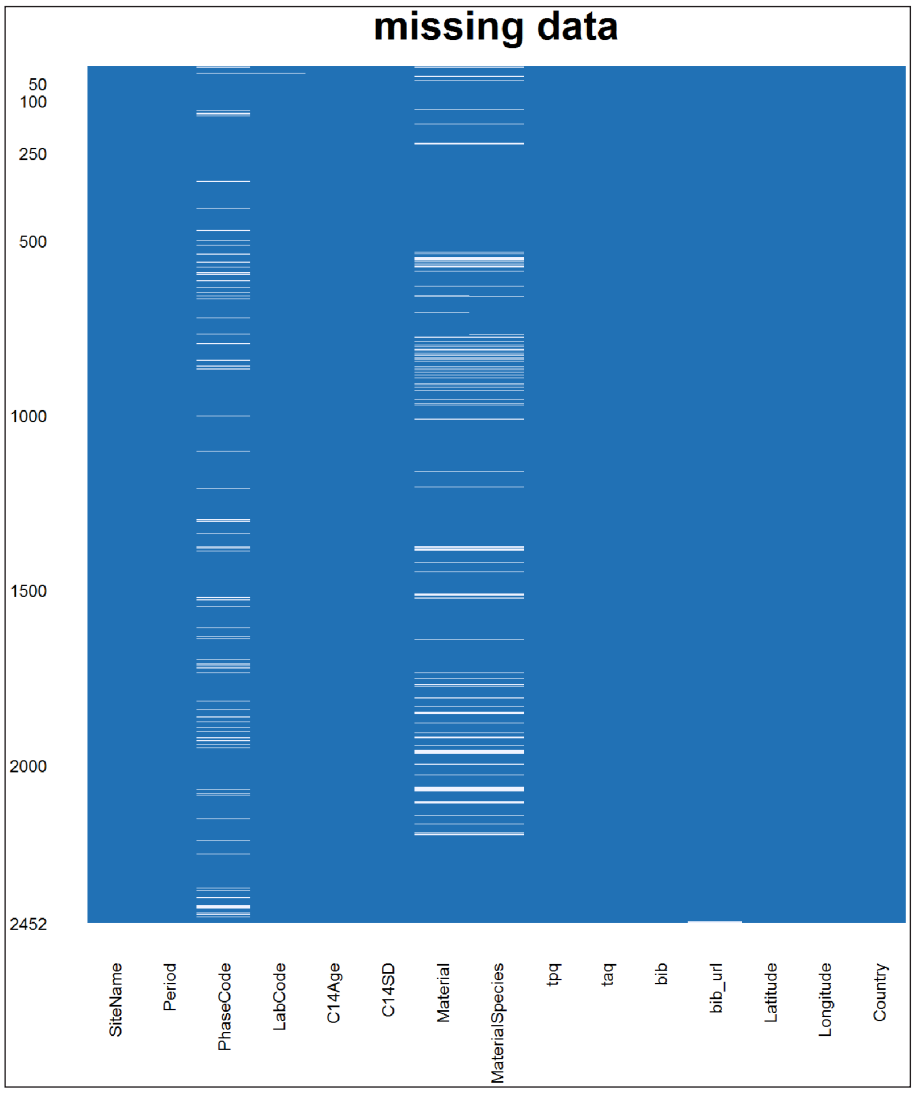


Figure 3 Missing values (blank cells) in the elencoc14.tsv dataset.

(3) DATASET DESCRIPTION

NeoNet dataset is available on the University of Pisa repository. Files are listed with the code: id00140.

OBJECT NAME

The dataset consists of the *elencoc14.tsv* file listing all the radiocarbon dates; the file *thesaurus.tsv* for equivalences between material ("Material" and "MaterialSpecies") and material life duration; the file *reference.bib* for bibliographical references.

RADIOCARBON DATASET (ELENCOC14.TSV)

The NeoNet dataset reuses part of the Euroevol layout to register the main information about radiocarbon dates, since Euroevol was one of the first, and the most complete open access database ever published [21]. The file is a dataframe with tab-separated values (.tsv)

Each radiocarbon date has a:

- unique site name ("SiteName");
- cultural period associated with the radiocarbon date ("Period"). Periods abbreviations are defined as following: EM (Early Mesolithic), MM (Middle Mesolithic), LM (Late Mesolithic), UM (Undefined Mesolithic), LMEN (Late Mesolithic/Early Neolithic), EN (Early Neolithic), MN (Middle Neolithic), LN (Late Neolithic), UN (Undefined Neolithic).
- stratigraphical or structural context of sample provenience ("PhaseCode");
- unique identifier based on the standard laboratory identifiers ("LabCode") in respect to the conventional naming of laboratory codes and sample notation [26];
- conventional radiocarbon age ("C14Age");
- standard deviation associated error ("C14SD");
- type of material from where the date has been extract ("Material");
- specification of this material ("MaterialSpecies");
- calculated time rank in cal BC *terminus post quem* ("tpq") and *terminus ante quem* ("taq");
- bibliographical references with a short title ("bib");
- DOI or a BibTeX key referring to an entry in *reference.bib* ("bib_url");
- site coordinates in decimal degrees ("Longitude", "Latitude");
- country where site is located ("Country")

MATERIAL LIFE (THESAURUS.TSV)

Material life durations are stored in the *thesaurus.tsv* file. The two fields show the material type ("material.type") and the material life duration ("life.duration"). This thesaurus is used to differentiate short- from long-life samples. Material type field has been aligned to the Euroevol values. In our dataset, to described dated samples, we have used the largest and most inclusive grouping: wood charcoal, plant seed, animal bone, human bone, shell, organic

BIBLIOGRAPHICAL REFERENCES (REFERENCE.BIB)

Bibliographical references (n = 300) of each radiocarbon date are stored in the *reference.bib* file. It is a BibTeX file format. If only a BibTeX key is given, and no DOI, this file results from the join between the "bib_url" field of the C14 spreadsheet and the *reference.bib*. If the DOI exists, the full bibliographical reference is given.

DATATYPE

Secondary data

FORMAT NAMES AND VERSIONS

TSV UTF-8, BibTex

CREATION DATES

Records created from February 2020 to September 2021 as part of the NeoNet work group.

DATASET CREATORS

NM and TH designed the research; TH, MC, JFG, FXO and NM collected raw data: Adriatic western Balkans and Italy (NM), South of France (TH), and eastern Spain (MC, JFG, FXO). NM was primarily responsible for the data collation. TH created the web app and analysed data; TH and NM wrote the paper. TH, MC, JFG, FXO and NM reviewed the paper.

LANGUAGE

English

LICENSE

REPOSITORY LOCATION

https://doi.org/10.13131/archelogicadata-yb11-yb66

PUBLICATION DATE

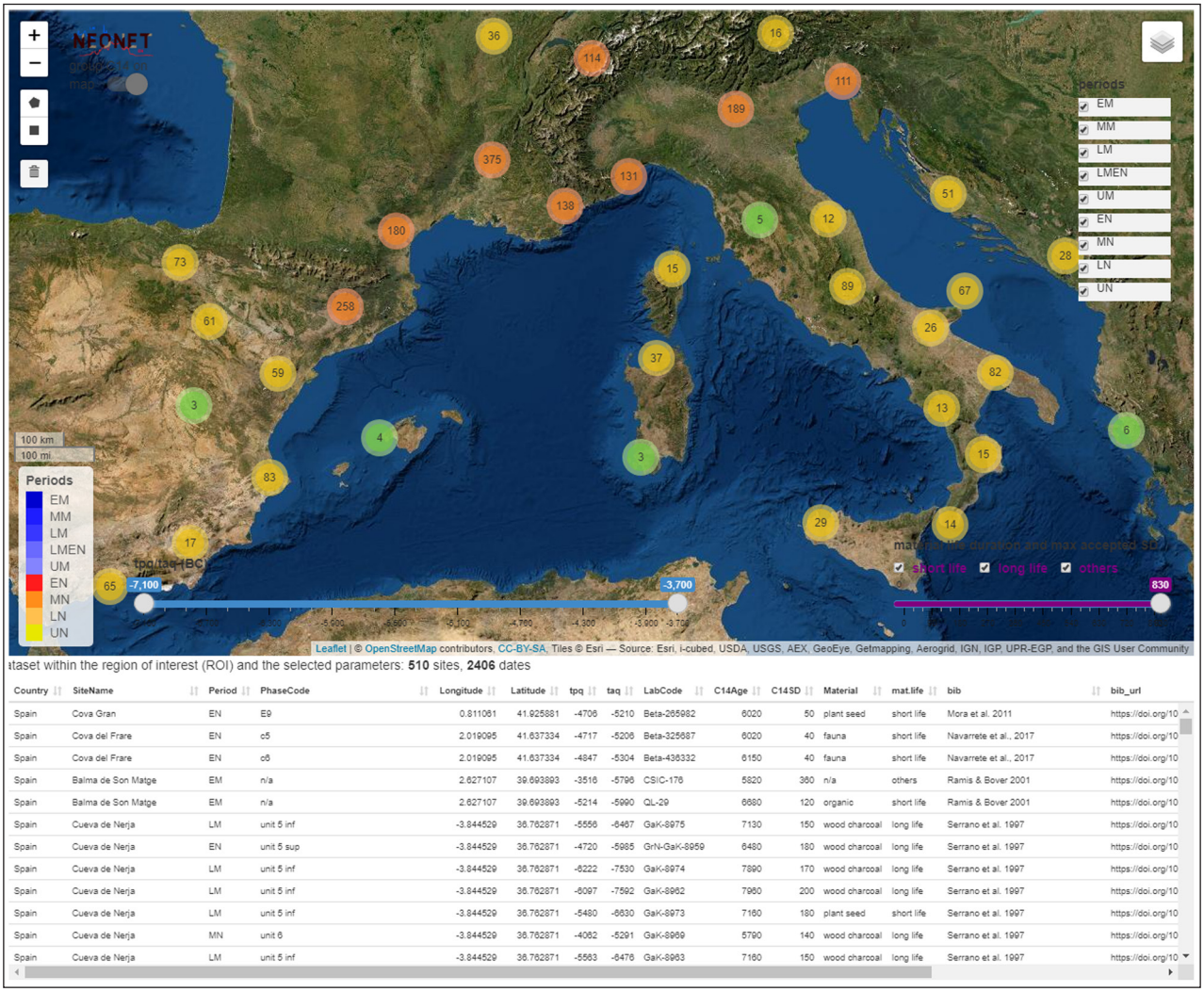
November 2021

(4) REUSE POTENTIAL

Regarding the spread of farming in the Mediterranean region, the NeoNet dataset completes radiocarbon datasets such as BDA [17], Piberia [20], Euroevol [21], MediCarbon [24], and Katsianis [25].

The NeoNet dataset will be linked to the function get_neonet() from the R package c14bazAAR [27]. This function is part of the package getter function that allows the browsing of more than twenty different radiocarbon databases or datasets and homogenises their formats (***Figure 4***).

The NeoNet dataset is also embedded in the NeoNet app (*http://shinyserver.cfs.unipi.it:3838/C14/*) hosted by the



Country	SiteName	Period	PhaseCode	Longitude	Latitude	tpq	taq	LabCode	C14Age	C14SD	Material	mat.life	bib	bib_url
Spain	Cova Gran	EN	E9	0.811061	41.925881	-4706	-5210	Beta-265982	6020	50	plant seed	short life	Mora et al. 2011	https://doi.org/10
Spain	Cova del Frare	EN	c5	2.019095	41.637334	-4717	-5206	Beta-325687	6020	40	fauna	short life	Navarrete et al., 2017	https://doi.org/10
Spain	Cova del Frare	EN	c6	2.019095	41.637334	-4847	-5304	Beta-436332	6150	40	fauna	short life	Navarrete et al., 2017	https://doi.org/10
Spain	Balma de Son Matge	EM	n/a	2.627107	39.693893	-3516	-5796	CSIC-176	5820	360	n/a	others	Ramis & Bover 2001	https://doi.org/10
Spain	Balma de Son Matge	EM	n/a	2.627107	39.693893	-5214	-5990	QL-29	6680	120	organic	short life	Ramis & Bover 2001	https://doi.org/10
Spain	Cueva de Nerja	LM	unit 5 inf	-3.844529	36.762871	-5556	-6467	GaK-8975	7130	150	wood charcoal	long life	Serrano et al. 1997	https://doi.org/10
Spain	Cueva de Nerja	EN	unit 5 sup	-3.844529	36.762871	-4720	-5985	GrN-GaK-8959	6480	180	wood charcoal	long life	Serrano et al. 1997	https://doi.org/10
Spain	Cueva de Nerja	LM	unit 5 inf	-3.844529	36.762871	-6222	-7530	GaK-8974	7890	170	wood charcoal	long life	Serrano et al. 1997	https://doi.org/10
Spain	Cueva de Nerja	LM	unit 5 inf	-3.844529	36.762871	-6097	-7592	GaK-8962	7960	200	wood charcoal	long life	Serrano et al. 1997	https://doi.org/10
Spain	Cueva de Nerja	LM	unit 5 inf	-3.844529	36.762871	-5480	-6630	GaK-8973	7160	180	plant seed	short life	Serrano et al. 1997	https://doi.org/10
Spain	Cueva de Nerja	MN	unit 6	-3.844529	36.762871	-4062	-5291	GaK-8969	5790	140	wood charcoal	long life	Serrano et al. 1997	https://doi.org/10
Spain	Cueva de Nerja	LM	unit 5 inf	-3.844529	36.762871	-5563	-6476	GaK-8963	7160	150	wood charcoal	long life	Serrano et al. 1997	https://doi.org/10

Figure 4 Screen capture of the NeoNet app (R Shiny).

University of Pisa. This interactive web app facilitates the selection of dates by providing selection tools for spatial information, chronology, and date accuracy. The map interface facilitates the multi-scalar study of the mobile border between the last hunter-gathers and early farmers. The development version of the app is stored on GitHub (*https://github.com/zoometh/neonet*) and will enable contributions (*https://github.com/zoometh/neonet/blob/master/.github/CONTRIBUTING.md*). Finally, a web tutorial has also been created for the app and the dataset (*https://zoometh.github.io/neonet/*).

ACKNOWLEDGEMENTS

We are especially grateful to Federico Bianchi and everyone in the MAPPALab at the University of Pisa for their technical support.

FUNDING STATEMENT

This paper forms part of two research projects funded by the MCIN/AEI: '*Origen, desarrollo y consolidación del neolítico en el* ámbito *Mediterráneo*' (RED2018-102382-T) and '*Tools, Techniques and Specialists: the keys to understand the Mesolithic-Neolithic transition in Mediterranean Europe*' (PID2020-112513RB-I00). It is also part of the '*AGER. Crescita agricola nell'Europa preistorica. Un approccio al cambio tecnologico, economico e sociale*' project funded by the Italian Ministry of Education, University and Research in the framework of the Rita Levi Montalcini program. Part of the data has been obtained from the EU funded MSCA-IF project 'QUANT' (792544).

COMPETING INTERESTS

The authors have no competing interests to declare.

AUTHOR AFFILIATIONS

Thomas Huet *orcid.org/0000-0002-1112-6122*
University of Oxford, School of Archaeology, United Kingdom

Miriam Cubas *orcid.org/0000-0002-2386-8473*
Universidad de Alcalá, Facultad de Filosofía y Letras, Departamento de Historia y Filosofía, ES

Juan F. Gibaja *orcid.org/0000-0002-0830-3570*
Escuela Española de Historia y Arqueología en Roma (EEHAR-CSIC), IT

F. Xavier Oms *orcid.org/0000-0002-1642-548X*
SERP, Seminari d'Estudis i Recerques Prehistòriques, Secció de Prehistòria i Arqueología, Universitat de Barcelona, ES

Niccolò Mazzucco *orcid.org/0000-0002-9315-3625*
Università di Pisa, Dipartimento di Civiltà e Forme del Sapere, IT

REFERENCES

1. **Guilaine J.** La difusión de la agricultura en Europa: una difusión aritmética. *Zephyrvs*, 2009; 530: 267–272. Available at: *https://revistas.usal.es/index.php/0514-7336/article/view/4987* (Accessed: 25 August 2021).
2. **Guilaine J.** A personal view of the neolithisation of the Western Mediterranean. *Quaternary International*, 2018; 470: 211–225. DOI: *https://doi.org/10.1016/j.quaint.2017.06.019*
3. **Mazzucco N, Ibáñez JJ, Capuzzo G, Gassin B, Mineo M, Gibaja JF.** Migration, adaptation, innovation: The spread of Neolithic harvesting technologies in the Mediterranean. *PloSone*, 2020; 15(4): e0232455. DOI: *https://doi.org/10.1371/journal.pone.0232455*
4. **Salavert A, Martin L, Antolín F, Zazzo A.** The opium poppy in Europe: exploring its origin and dispersal during the Neolithic. *Antiquity*, 2018; 92(364): e1. DOI: *https://doi.org/10.15184/aqy.2018.154*
5. **Tykot RH.** Obsidian Procurement and Distribution in the Central and Western Mediterranean. *Journal of Mediterranean Archaeology*, 1996; 9(1): 39–82. DOI: *https://doi.org/10.1558/jmea.v9i1.39*
6. **Gabriele M, Convertini F, Verati C, Gratuze B, Jacomet S, Boschian G, Durrenmath G, Guilain J, Lardeaux J-M, Gomart L, Manen C, Binder D.** Long-distance mobility in the North-Western Mediterranean during the Neolithic transition using high resolution pottery sourcing. *Journal of Archaeological Science: Reports*, 2019; 28: 102050. DOI: *https://doi.org/10.1016/j.jasrep.2019.102050*
7. **Skeates R.** Ritual, Context, and Gender in Neolithic South-Eastern Italy. *Journal of European Archaeology*, 1994; 2(2): 199–214. DOI: *https://doi.org/10.1179/096576694800719102*
8. **Perrin T.** Mesolithic and Neolithic cultures co-existing in the upper Rhône valley. *Antiquity*, 2003; 77(298): 732–739. DOI: *https://doi.org/10.1017/S0003598X00061676*
9. **Juan-Cabanilles J, Martí Oliver B.** New Approaches to the Neolithic Transition: The Last Hunters and First Farmers of the Western Mediterranean. In: García-Puchol O, Salazar-García D (eds.), *Times of Neolithic Transition along the Western Mediterranean*. Fundamental Issues in Archaeology. Cham: Springer, 2017: 33–65. DOI: *https://doi.org/10.1007/978-3-319-52939-4_3*
10. **Zvelebil M.** The agricultural transition and the origins of Neolithic society in Europe. *Documenta Praehistorica*, 2001; 28: 1–26. DOI: *https://doi.org/10.4312/dp.28.1*
11. **Perrin T, Marchand G, Valdeyron N, Sam B.** D'un sens à l'autre et retour… La «flèche de Montclus»: un marqueur des interactions entre mésolithiques et néolithiques? In: Arbogast R-M, Griselin S, Jeunesse C, Séara F (eds.), *Le second Mésolithique des Alpes à l'Atlantique (7e - 5e millénaire)*. Table ronde internationale, Strasbourg, les 3 et 4 novembre 2015, Mémoires d'Archéologie du Grand-Est 3, 2015: 127–151.
12. **Defranould E, Caro J, Boboeuf M, Manen C, Perrin T.** Mesolithic and Neolithic material productions in Aveyron (France) during the 6th millennium BC: Originality or adaptability? *Quaternary International*, 2018; 472: 221–235. DOI: *https://doi.org/10.1016/j.quaint.2017.01.036*
13. **Binder D.** Mesolithic and Neolithic interaction in southern France and northern Italy: new data and current hypotheses. In: Price D (ed.), *Europe's first farmers*. Cambridge Scholar Publishing, 2000; 117–143. DOI: *https://doi.org/10.1017/CBO9780511607851.006*
14. **Rivollat M, Jeong C, Schiffels S, Küçükkalıpçı I, Pemonge, MH, Rohrlach AB, … Haak W.** Ancient genome-wide DNA from France highlights the complexity of interactions between Mesolithic hunter-gatherers and Neolithic farmers. *Science advances*, 2020; 6(22): eaaz5344. DOI: *https://doi.org/10.1126/sciadv.aaz5344*
15. **Bocquet-Appel JP, Naji S, Vander Linden M, Kozlowski JK.** Detection of diffusion and contact zones of early farming in Europe from the space-time distribution of 14C dates. *Journal of Archaeological Science*, 2009; 36(3): 807–820. DOI: *https://doi.org/10.1016/j.jas.2008.11.004*
16. **Binder D, Lanos P, Angeli L, Gomart L, Guilaine J, Manen C, Maggi R, Muntoni IM, Panelli C, Radi G, Tozzi C, Arobba D, Battentier J, Brandaglia M, Bouby L, Briois F, Carré A, Delhon C, Gourichon L, Marinval P, Nisbet R, Rossi S, Rowley-Conwy P, Thiébault S.** Modelling the earliest north-western dispersal of Mediterranean Impressed Wares: new dates and Bayesian chronological model. *Documenta Praehistorica*, 2018; 44: 54–77. DOI: *https://doi.org/10.4312/dp.44.4*
17. **Martínez-Grau H, Jagher R, Oms FX, Barceló JA, Pardo-Gordó S, Antolín F.** Global Processes, Regional Dynamics? Radiocarbon Data as a Proxy for Social Dynamics at the End of the Mesolithic and During the Early Neolithic in the NW of the Mediterranean and Switzerland (c. 6200–4600 cal BC). *Documenta Praehistorica*, 2020; 47: 170–191. DOI: *https://doi.org/10.4312/dp.47.10*
18. **Perrin T, Manen C.** Potential interactions between Mesolithic hunter-gatherers and Neolithic farmers in the Western Mediterranean: The geochronological data revisited. *PloS one*, 2021; 16(3), e0246964. DOI: *https://doi.org/10.1371/journal.pone.0246964*
19. **Oms X, Martín A, Esteve X, Mestres J, Morell B, Subirà ME, Gibaja JF.** The Neolithic in North-East Iberia: Chronocultural Phases and 14C. *Radiocarbon*, 2016; 58(2): 291–309. DOI: *https://doi.org/10.1017/RDC.2015.14*

20. **Pardo-Gordó S, García Puchol O, BernabeuAubán J, Diez Castillo A.** Timing the Mesolithic-Neolithic Transition in the Iberian Peninsula: The Radiocarbon Dataset. *Journal of Open Archaeology Data*, 2019; 7: 4. DOI: *https://doi.org/10.5334/joad.49*
21. **Manning K, Colledge S, Crema E, Shennan S, Timpson A.** The Cultural Evolution of Neolithic Europe. EUROEVOL Dataset 1: Sites, Phases and Radiocarbon Data. *Journal of Open Archaeology Data*, 2016; 5: e2. DOI: *https://doi.org/10.5334/joad.40*
22. **Hinz M, Furholt M, Müller J, Raetzel-Fabian D, Rinne C, Sjögren K-G, Wotzka HP.** RADON - Radiocarbon dates online 2012. Central European database of ^{14}C dates for the Neolithic and Early Bronze Age. *http://www.jungsteinsite.de/*, 1–4. Available at: *https://radon.ufg.uni-kiel.de/* (Accessed: 25 August 2021). 2012.
23. **Palmisano A, Bevan A, Shennan S.** Regional Demographic Trends and Settlement Patterns in Central Italy: Archaeological Sites and Radiocarbon Dates. *Journal of Open Archaeology Data*, 2018; 6(1): 2. DOI: *https://doi.org/10.5334/joad.43*
24. **Lucarini G, Wilkinson T, Crema ER, Palombini A, Bevan A, Broodbank C.** The MedAfriCarbon Radiocarbon Database and Web Application. Archaeological Dynamics in Mediterranean Africa, ca. 9600–700 BC. *Journal of Open Archaeology Data*, 2020; 8(1): 1. DOI: *https://doi.org/10.5334/joad.60*
25. **Katsianis M, Bevan A, Styliaras G, Maniatis Y.** An Aegean History and Archaeology Written through Radiocarbon Dates. *Journal of Open Archaeology Data*, 2020; 8(1): 5. DOI: *https://doi.org/10.5334/joad.65*
26. *Radiocarbon.org*. Lab Codes, Available at: *http://www.radiocarbon.org/Info/labcodes.htm* (Accessed: 1 January 2021).
27. **Schmid** et al. c14bazAAR: An R package for downloading and preparing C14 dates from different source databases. *Journal of Open Source Software*, 2019; 4(43), 1914, DOI: *https://doi.org/10.21105/joss.01914*

TO CITE THIS ARTICLE:
Huet T, Cubas M, Gibaja JF, Oms FX, Mazzucco N 2022 NeoNet Dataset. Radiocarbon Dates for the Late Mesolithic/Early Neolithic Transition in the North Central-Western Mediterranean Basin. *Journal of Open Archaeology Data,* 10: 3, pp. 1–8. DOI: *https://doi.org/10.5334/joad.87*

Published: 24 February 2022