Supporting Information for

‘Societal changes in Ancient Greece impacted terrestrial and marine environments’

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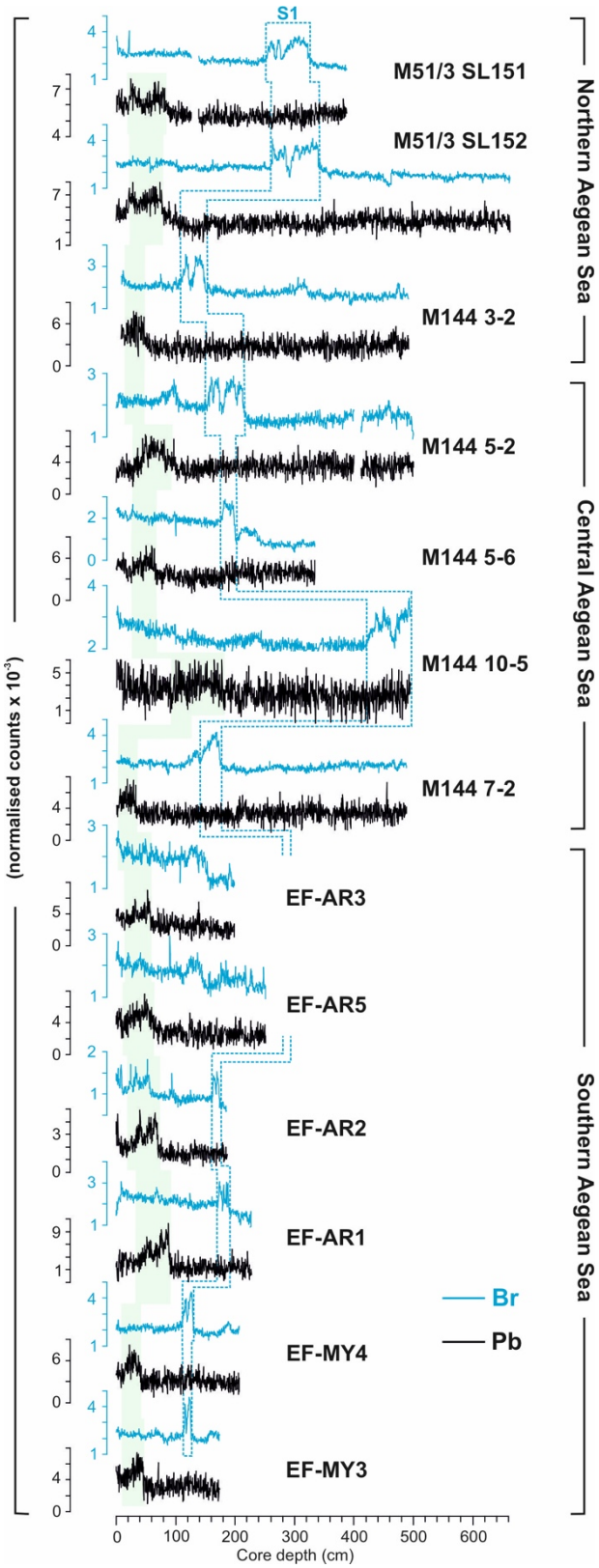
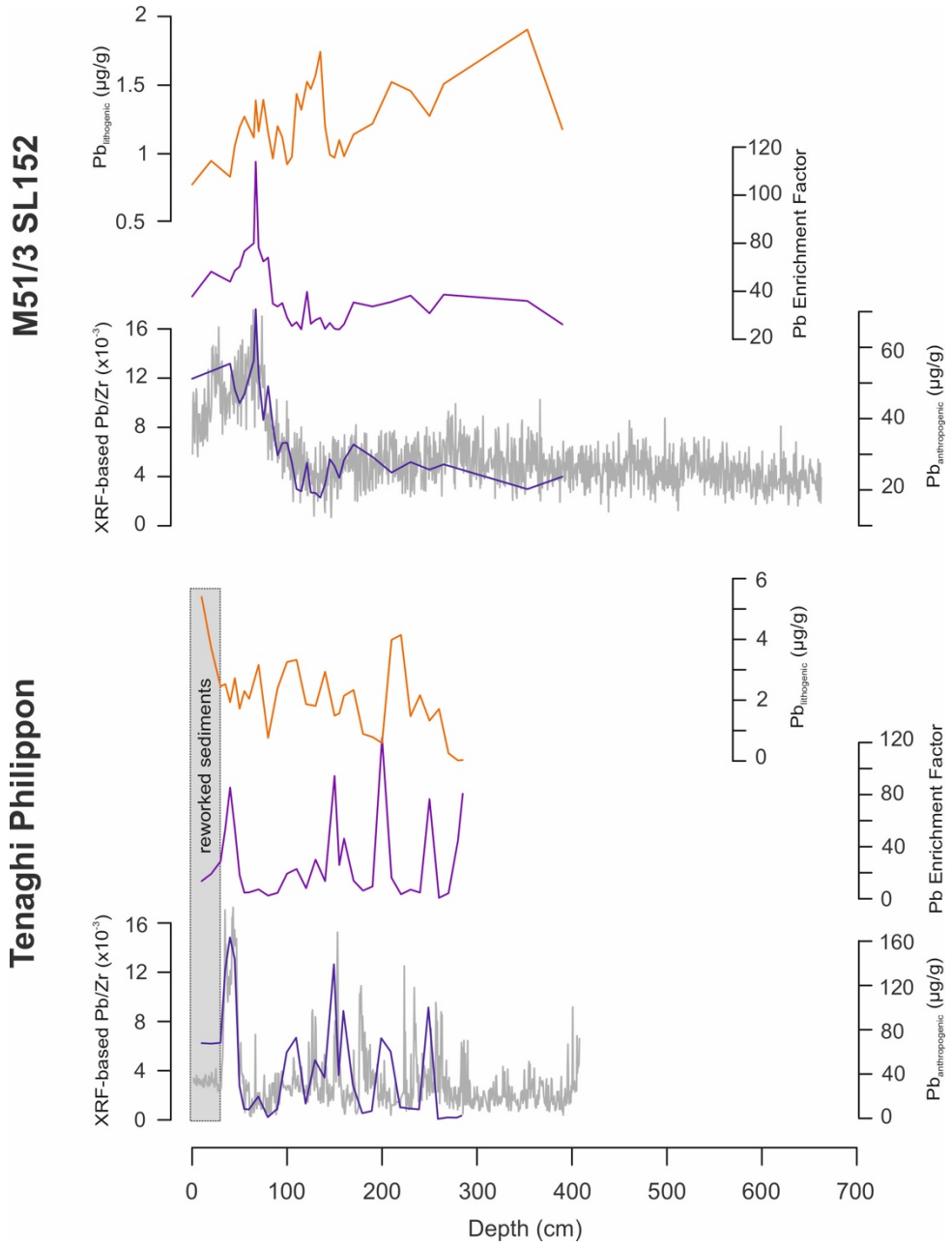
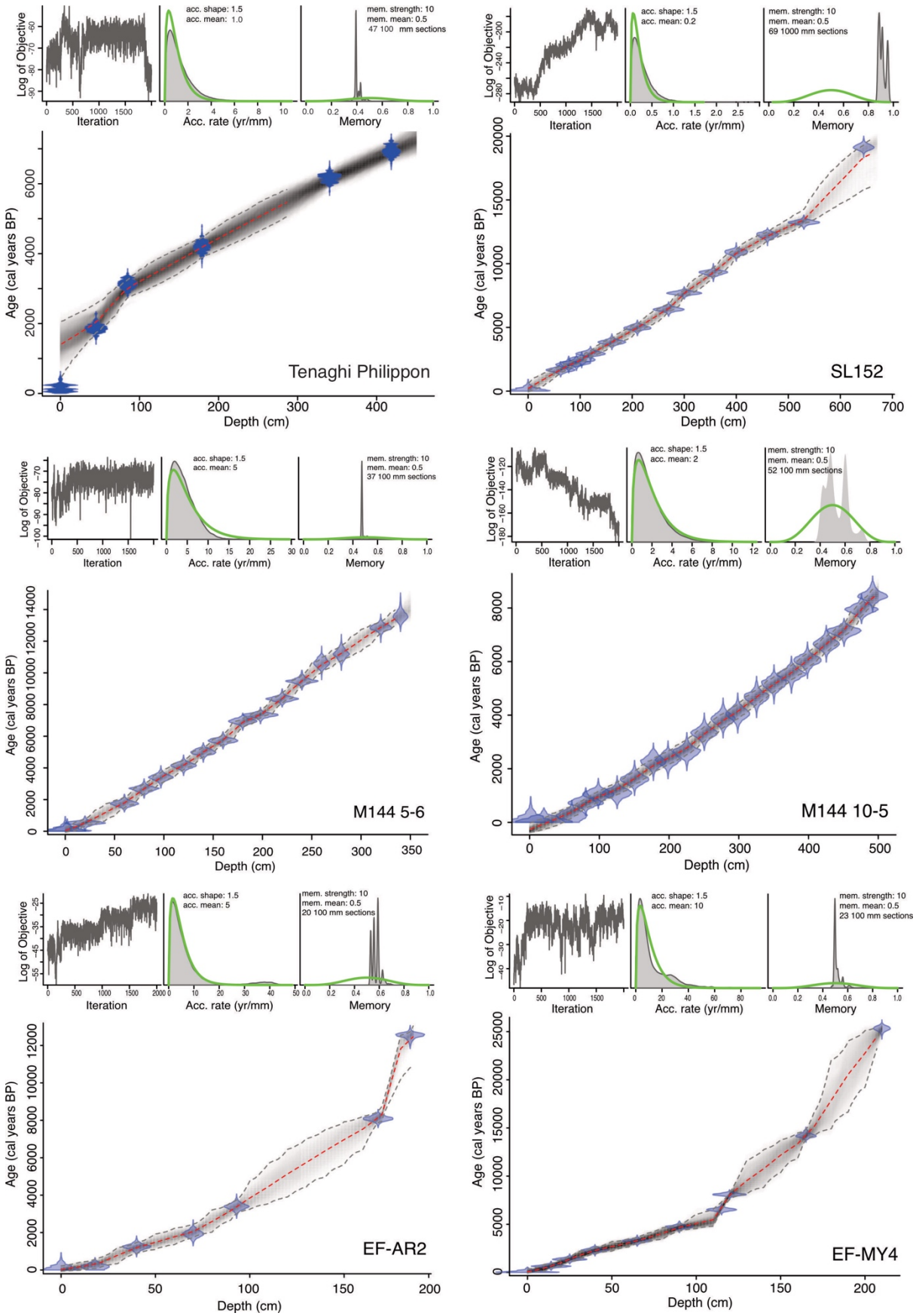


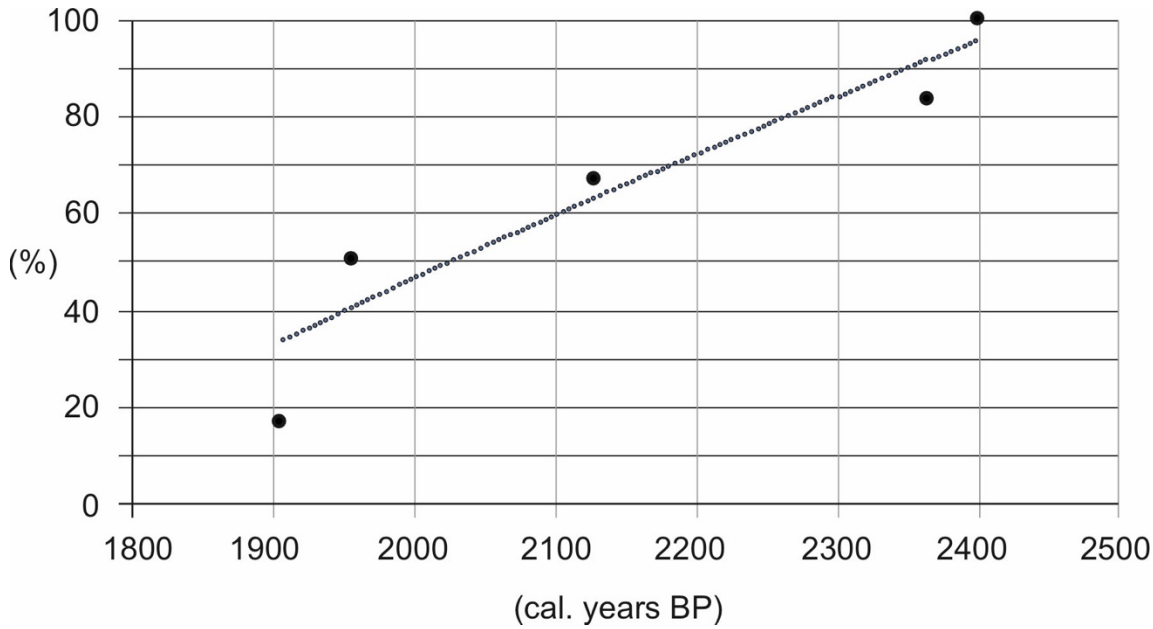
Supplementary Figure 1. Variability of Pb (black) and Br (blue) contents in the sediment cores studied from the Aegean Sea. The Br content is instrumental in identifying the position of Sapropel S1 (c. 6–9 kyrs BP; ref. 1), thus providing independent chronostratigraphic control for the records. Vertical dashed blue lines mark the position of Sapropel S1 as characterized by high Br contents. See Fig. 1 of the main text for core locations.



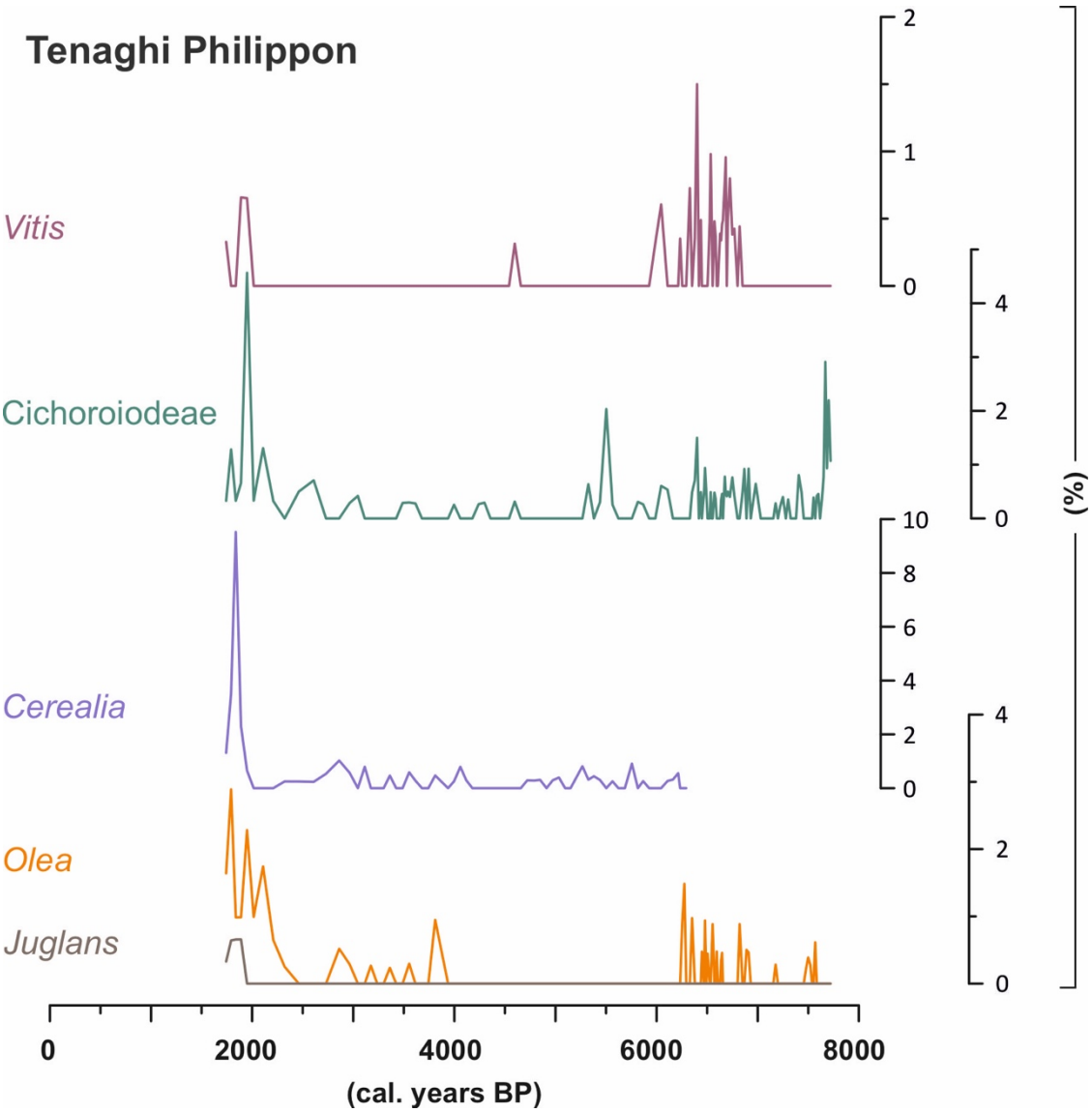
Supplementary Figure 2. Comparison of the XRF-based Pb/Zr ratio and ICP-MS-based $Pb_{anthropogenic}$, $Pb_{lithogenic}$ and Pb enrichment factor in the terrestrial core from Tenaghi Philippon and marine core M51/3 SL152. See Fig. 1 of the main text for core locations.



Supplementary Figure 3. Age-depth models for the terrestrial and marine records from the Aegean region (see Table S2 for radiocarbon dates).



Supplementary Figure 4. Cumulative distribution plot of the timing of Pb pollution in the records from the Aegean region based on change-point analysis.



Supplementary Figure 5. Pollen percentages of agricultural indicators from Tenaghi Philippon.

Supplementary Table 1. List of cores from the Aegean region used in this study sorted from north to south. a.s.l.: above sea level; b.s.l.: below sea level.

Core	Location	Region	Longitude (° N)	Latitude (° E)	Altitude (m a.s.l.) / Water depth (m b.s.l.)	Core length (cm)
TP-2005	Tenaghi Philippon	Northern Aegean	40°58.24”	24°13.25”	40	450
M51/3 SL151	North Aegean Trough	Northern Aegean	40°05.33’	24°36.67’	977	387
M51/3 SL152	North Aegean Trough	Northern Aegean	40°05.19’	24°36.65’	978	662
M144 3-2	North Aegean Trough	Northern Aegean	39°45.23'	24°05.76'	1085	492
M144 5-6	Skopelos/Kymi Basin	Central Aegean	38°55.54'	23°38.68'	559	335
M144 5-2	Skopelos/Kymi Basin	Central Aegean	38°55.53'	23°38.69'	611	500
M144 10-5	Lesvos Basin	Central Aegean	38°51.13'	26°14.80'	438	495
M144 7-2	Skopelos/Kymi Basin	Central Aegean	38°43.93'	24°20.08'	539	489
EF-AR3	Argolikos Basin	Southern Aegean	37°28.42'	22°47.96'	176	198
EF-AR5	Argolikos Basin	Southern Aegean	37°25.94'	23°01.87'	168	251
EF-AR2	Argolikos Basin	Southern Aegean	37°17.79'	22°56.73'	725	187
EF-AR1	Argolikos Basin	Southern Aegean	37°15.33'	22°58.26'	760	227
EF-MY4	Myrtoon Basin	Southern Aegean	37°08.98’	23°57.00’	845	207
EF-MY3	Myrtoon Basin	Southern Aegean	37°04.17’	23°56.58’	906	173

Supplementary Table 2. List of accelerator mass spectrometry radiocarbon dates. Radiocarbon dating laboratories: ANSTO: Australia's Nuclear Science and Technology Organisation, Australia; BETA: Beta Analytic, USA; CEZA: Curt-Engelhorn-Centre of Archaeometry, Mannheim, Germany; KIEL: Leibniz Laboratory for Radiometric Dating and Stable Isotope Research, Kiel, Germany; LARA: Laboratory for the Analysis of Radiocarbon with AMS at the University of Bern, Switzerland (ref. 2); POZNAN: Poznan Radiocarbon Laboratory, Poland.

Core	Core depth (cm)	Uncal. age (yrs BP ± 1σ)	Material	Laboratory	Laboratory sample code	Reference
TP-2005	45	2329 ± 20	Bulk peat	CEZA	MAMS 61527	This study
TP-2005	85	3359 ± 20	Bulk peat	CEZA	MAMS 61528	This study
TP-2005	179	4200 ± 40	*Oxyloma elegans*	POZNAN	Poz-15891	Ref. 3
TP-2005	340,5	5790 ± 40	*Oxyloma elegans*	POZNAN	Poz-15894	Ref. 3
TP-2005	418,5	6460 ± 50	*Viviparus contectus*	POZNAN	Poz-15895	Ref. 3
M51/3 SL152	62-63	2630 ± 50	*Globigerinoides ruber* & *Globigerina bulloides*	ANSTO	OZL072	This study
M51/3 SL152	78-79	2970 ± 60	*Globigerinoides ruber* & *Globigerina bulloides*	ANSTO	OZL073	This study
M51/3 SL152	93-94	3085 ± 40	*Globigerinoides ruber* & *Globigerina bulloides*	ANSTO	OZL074	This study
M51/3 SL152	103-104	3280 ± 45	*Globigerinoides ruber* & *Globigerina bulloides*	ANSTO	OZL075	This study
M51/3 SL 152	120-121	3675 ± 30	Pteropods	KIEL	KIA 33778	This study
M51/3 SL 152	161-162	4400 ± 30	*Globigerinoides ruber*	KIEL	KIA 28410	Ref. 4
M51/3 SL 152	210-211	5265 ± 35	*Globigerinoides ruber*	KIEL	KIA 28411	Ref. 4
M51/3 SL 152	270-271	6570 ± 45	*Globigerinoides ruber*	KIEL	KIA 28412	Ref. 4
M51/3 SL152	300-301	7805 ± 40	*Globigerinoides ruber* & *Globigerina bulloides*	KIEL	KIA 28413	Ref. 4
M51/3 SL152	356-357	9205 ± 55	*Globigerinoides ruber*	KIEL	KIA 28414	Ref. 4
M51/3 SL152	400-401	10410 ± 50	Pteropods	KIEL	KIA 28415	Ref. 4
M51/3 SL152	460-461	11340 ± 55	Mixed planktic forams	KIEL	KIA 33779	This study
M51/3 SL152	530-531	12310 ± 55	Mixed planktic forams	KIEL	KIA 33780	This study
M51/3 SL152	645-646	16990 ± 90	Mixed planktic forams	KIEL	KIA 28409	Ref. 4
M144 5-6	2-3	189 ± 41	Mixed planktic forams	LARA	BE-11041.1.1	This study
M144 5-6	20-21	1486 ± 34	Mixed planktic forams	LARA	BE-11042.1.1	This study
M144 5-6	60-61	2699 ± 42	Mixed planktic forams	LARA	BE-11043.1.1	This study
M144 5-6	80-81	3459 ± 39	Mixed planktic forams	LARA	BE-11044.1.1	This study
M144 5-6	97-98	4054 ± 74	Mixed planktic forams	LARA	BE-11045.1.1	This study
M144 5-6	120-121	4634 ± 33	Mixed planktic forams	LARA	BE-11046.1.1	This study
M144 5-6	140-141	5292 ± 44	Mixed planktic forams	LARA	BE-11047.1.1	This study
M144 5-6	160-161	5931 ± 38	Mixed planktic forams	LARA	BE-11048.1.1	This study
M144 5-6	180-181	7045 ± 34	Mixed planktic forams	LARA	BE-11049.1.1	This study
M144 5-6	198-199	7425 ± 33	Mixed planktic forams	LARA	BE-11050.1.1	This study
M144 5-6	220-221	8456 ± 34	Mixed planktic forams	LARA	BE-11051.1.1	This study
M144 5-6	240-241	9365 ± 37	Mixed planktic forams	LARA	BE-11052.1.1	This study
M144 5-6	260-261	10214 ± 124	Mixed planktic forams	LARA	BE-11053.1.1	This study
M144 5-6	280-281	10622 ± 131	Mixed planktic forams	LARA	BE-11054.1.1	This study
M144 5-6	320-321	11920 ± 139	Mixed planktic forams	LARA	BE-11154.1.1	This study
M144 5-6	340-341	12603 ± 183	Mixed planktic forams	LARA	BE-11056.1.1	This study
M144 10-5	1-2	-210 ± 77	Mixed planktic forams	LARA	BE-11057.1.1	This study
M144 10-5	20-21	942 ± 65	Mixed planktic forams	LARA	BE-11058.1.1	This study
M144 10-5	60-61	1181 ± 97	Mixed planktic forams	LARA	BE-11059.1.1	This study
M144 10-5	80-81	1739 ± 68	Mixed planktic forams	LARA	BE-11060.1.1	This study
M144 10-5	98-99	2050 ± 71	Mixed planktic forams	LARA	BE-11061.1.1	This study
M144 10-5	125-126	2093 ± 87	Mixed planktic forams	LARA	BE-11062.1.1	This study
M144 10-5	150-151	2581 ± 72	Mixed planktic forams	LARA	BE-11063.1.1	This study

M144 10-5	175-176	3125 ± 76	Mixed planktic forams	LARA	BE-11064.1.1	This study
M144 10-5	198-199	3174 ± 75	Mixed planktic forams	LARA	BE-11065.1.1	This study
M144 10-5	225-226	3424 ± 74	Mixed planktic forams	LARA	BE-11066.1.1	This study
M144 10-5	250-251	3995 ± 77	Mixed planktic forams	LARA	BE-11067.1.1	This study
M144 10-5	275-276	4416 ± 78	Mixed planktic forams	LARA	BE-11068.1.1	This study
M144 10-5	288-299	4563 ± 79	Mixed planktic forams	LARA	BE-11069.1.1	This study
M144 10-5	325-326	5042 ± 80	Mixed planktic forams	LARA	BE-11070.1.1	This study
M144 10-5	350-351	5444 ± 81	Mixed planktic forams	LARA	BE-11071.1.1	This study
M144 10-5	375-376	5750 ± 82	Mixed planktic forams	LARA	BE-11072.1.1	This study
M144 10-5	398-399	6226 ± 86	Mixed planktic forams	LARA	BE-11073.1.1	This study
M144 10-5	425-426	6792 ± 87	Mixed planktic forams	LARA	BE-11074.1.1	This study
M144 10-5	450-451	7220 ± 35	Mixed planktic forams	LARA	BE-11075.1.1	This study
M144 10-5	475-476	8063 ± 62	Mixed planktic forams	LARA	BE-11076.1.1	This study
M144 10-5	491-492	8533 ± 67	Mixed planktic forams	LARA	BE-11077.1.1	This study
EF-AR2	18-19	1113 ± 65	*Globigerinoides ruber*	LARA	BE-17341.1.1	This study
EF-AR2	40-41	2240 ± 53	*Globigerinoides ruber*	LARA	BE-20540.1.1	This study
EF-AR2	70-71	2850 ± 71	*Globigerinoides ruber* & *Globigerina bulloides*	LARA	BE-17342.1.1	This study
EF-AR2	93-94	4042 ± 47	*Globigerinoides ruber*	LARA	BE-20541.1.1	This study
EF-AR2	185-186	11582 ± 45	*Globigerinoides ruber*	LARA	BE-20543.1.1	This study
EF-MY4	0-1	553 ± 32	*Globigerinoides ruber*	LARA	BE-20546.1.1	This study
EF-MY4	14-15	1644 ± 33	*Globigerinoides ruber*	LARA	BE-17339.1.1	This study
EF-MY4	25-26	2366 ± 27	*Globigerinoides ruber*	LARA	BE-20547.1.1	This study
EF-MY4	40-41	3159 ± 37	*Globigerinoides ruber*	LARA	BE-7340.1.1	This study
EF-MY4	65-66	3951 ± 29	*Globigerinoides ruber*	LARA	BE-20548.1.1	This study
EF-MY4	90-91	5089 ± 28	*Globigerinoides ruber*	LARA	BE-20549.1	This study
EF-MY4	115-116	6669 ± 30	*Globigerinoides ruber*	LARA	BE-20550.1.1	This study
EF-MY4	165-166	13087 ± 36	*Globigerinoides ruber*	LARA	BE-20552.1.1	This study
EF-MY4	210-211	22324 ± 151	*Globigerinoides ruber*	LARA	BE-20553.1.1	This study

Supplementary References

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3. Müller, U. C. *et al*., The role of climate in the spread of modern humans into Europe. *Quaternary Science Reviews* **30**, 273-279 (2011).
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