

## Supporting Information

### ***Long-term trends in human body size track regional variation in subsistence transitions and suggest growth acceleration linked to dairying***

Jay T. Stock<sup>a</sup>, Emma Pomeroy<sup>b</sup>, Christopher B. Ruff<sup>c</sup>, Marielle Brown<sup>b</sup>, Matthew A. Gasperetti<sup>b</sup>, Fa-Jun Li<sup>d</sup>, Lisa Maher<sup>e</sup>, Caroline Malone<sup>f</sup>, Veena Mushrif<sup>g</sup>, Eóin Parkinson<sup>f</sup>, Michael Rivera<sup>h</sup>, Yun Ysi Siew<sup>b</sup>, Sofija Stefanovic<sup>i</sup>, Simon Stoddart<sup>b</sup>, Gunita Zariņa<sup>j</sup>, Jonathan C.K. Wells<sup>k</sup>

<sup>a</sup> Department of Anthropology, Social Science Centre, Western University London, Ontario, Canada, N6A 3K7

<sup>b</sup> Department of Archaeology, University of Cambridge, Downing Street, Cambridge, United Kingdom, CB2 3DZ

<sup>c</sup> Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine, 1830 East Monument Street, Baltimore, Maryland 21205 USA

<sup>d</sup> Department of Anthropology, School of Sociology and Anthropology, Sun Yat-Sen University, Martin Hall, No.135 of Xingangxi Road, Guangzhou, 510275, China,

<sup>e</sup> Department of Anthropology, University of California, Berkeley, 232 Anthropology and Art Practice Building, Berkeley, CA, USA 94720-3710

<sup>f</sup> Archaeology, Geography and Palaeoecology, Queen's University Belfast, Belfast, BT7 1NN, United Kingdom

<sup>g</sup> Department of Archaeology, Deccan College Post-Graduate and Research Institute, Pune, 411006, India

<sup>h</sup> Department of History, School of Humanities, The University of Hong Kong, Hong Kong

<sup>i</sup> Department of Archaeology, Laboratory for Bioarchaeology, University of Belgrade, 11000 Belgrade, Serbia

<sup>j</sup> Institute of Latvian History, University of Latvia, Kalpaka Bulvaris 4, Riga 1050, Latvia

<sup>k</sup> Population, Policy and Practice Research and Teaching Department, UCL Great Ormond Street Institute of Child Health, 30 Guilford Street, London WC1N 1EH, UK.

## Materials and Methods

Our study included skeletal metric data from seven regions, including Southern, Central, and Northern Europe, the Levant, the Nile valley, South Asia, and China. The combined dataset was derived from previously published studies but also included a significant amount of new data. The European dataset was primarily drawn from previous studies (1, 2) but was supplemented by unpublished data collected by our team. Similarly, some of our data from the Nile Valley (3) and South Asia (4) has previously published but these data have been supplemented with additional measurements for the current study. Our data from the Levant and China have not been previously published. The data from China are generally patterned into Northern and Southern groups, which we have pooled for the purposes of this study, however future analyses should include a broader spatial range, and investigate phenotypic correlates of lactase persistence among steppe herders into Central Asia (5). We have compiled additional datasets from other regions that were not used in this study. Our datasets representing sub-Saharan Africa and the Sahel are, at present, insufficient to provide the spatial-temporal resolution to test for the phenotypic consequences of selection for lactase persistence in these regions. Given the strong evidence for convergent evolution of lactase persistence within Africa (6–11) the further testing for phenotypic correlates of lactase persistence within Africa is essential. At present, the available datasets for skeletal variation within Africa are seriously under-represented by historic biases in archaeological exploration, recovery, and curation. We excluded data from the Americas in the current study due to the geographic focus of this special issue. All unpublished measurements were taken by authors of the current study. While we have not been able to directly test for inter-observer error in skeletal measurements among our team, we note that the osteometric measurements used are defined using well accepted standards and reflect maximum length and breadth measures which previous studies have illustrated to be subject to negligible inter-observer error when data are collected by experienced researchers (12, 13). Similarly, sex was determined, wherever possible, by dimorphic features of the pelvis which have been shown to be over 95% accurate relative to aDNA sex determination (14). Where sex was unknown or ambiguous, individuals were classified as being of 'indeterminate' sex, and were excluded from any sex-based comparisons. Future analyses should expand our datasets to allow for greater spatio-temporal resolution within specific subregions, and in particular, those where the chronology of cultural and dietary change is well resolved.

**Figure S1a.** Location of European Archaeological sites from which skeletal phenotypic data are derived, grouped by Southern Europe (purple), Central Europe (blue), and Northern Europe (green)

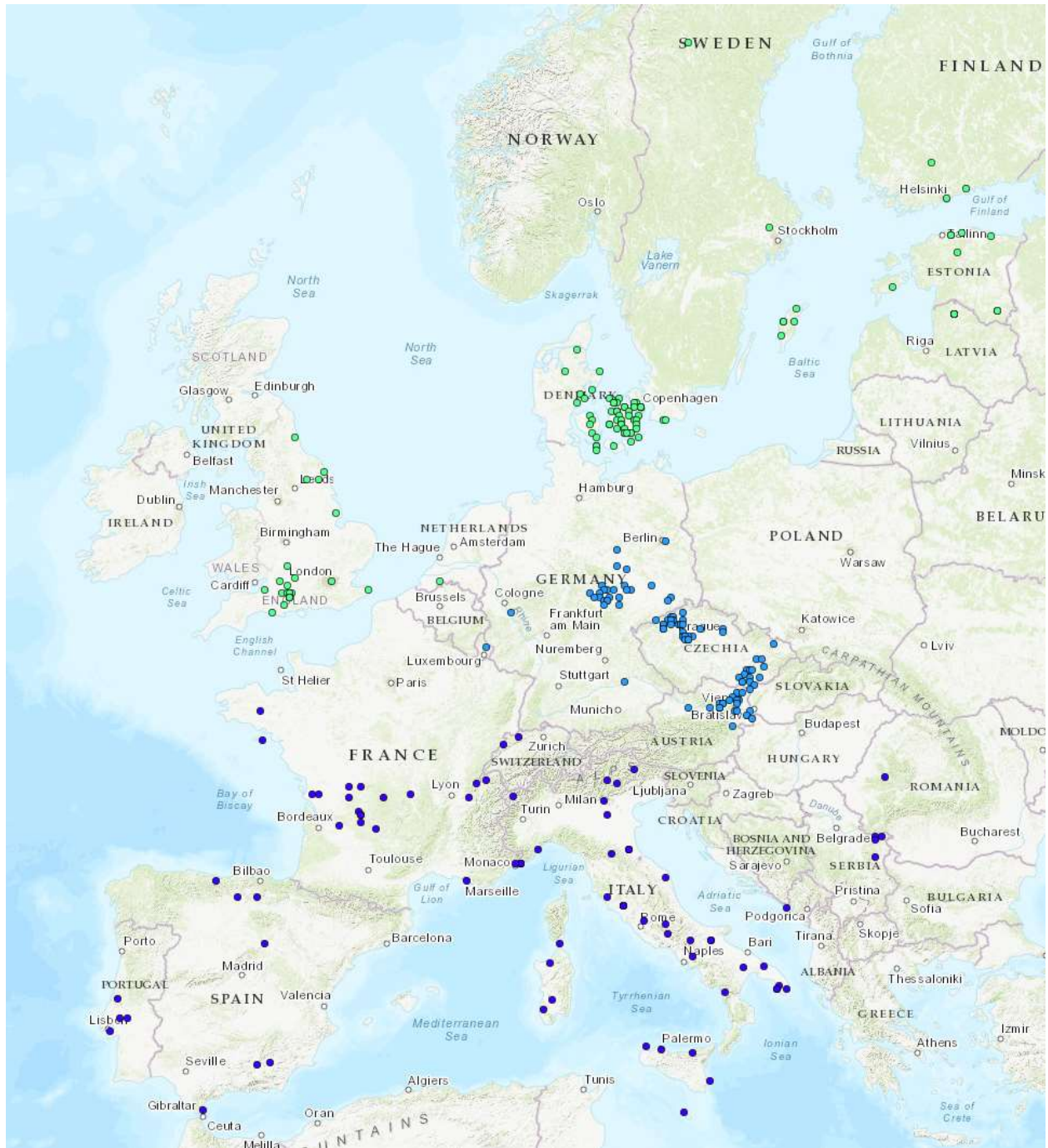


Figure S1b. Location of Archaeological sites in the Nile Valley (green) and Levant (red)

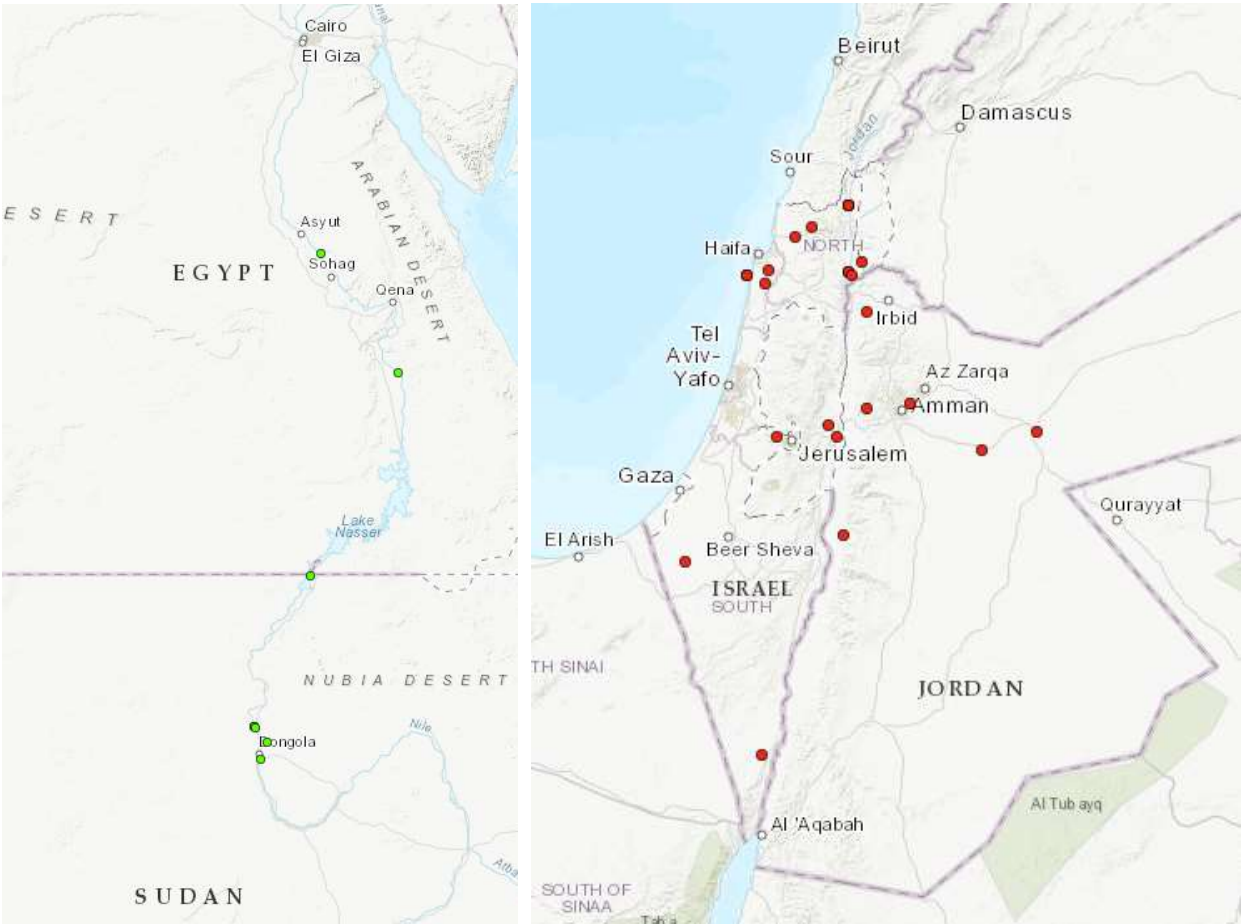


Figure S1c. Location of Archaeological sites in South Asia

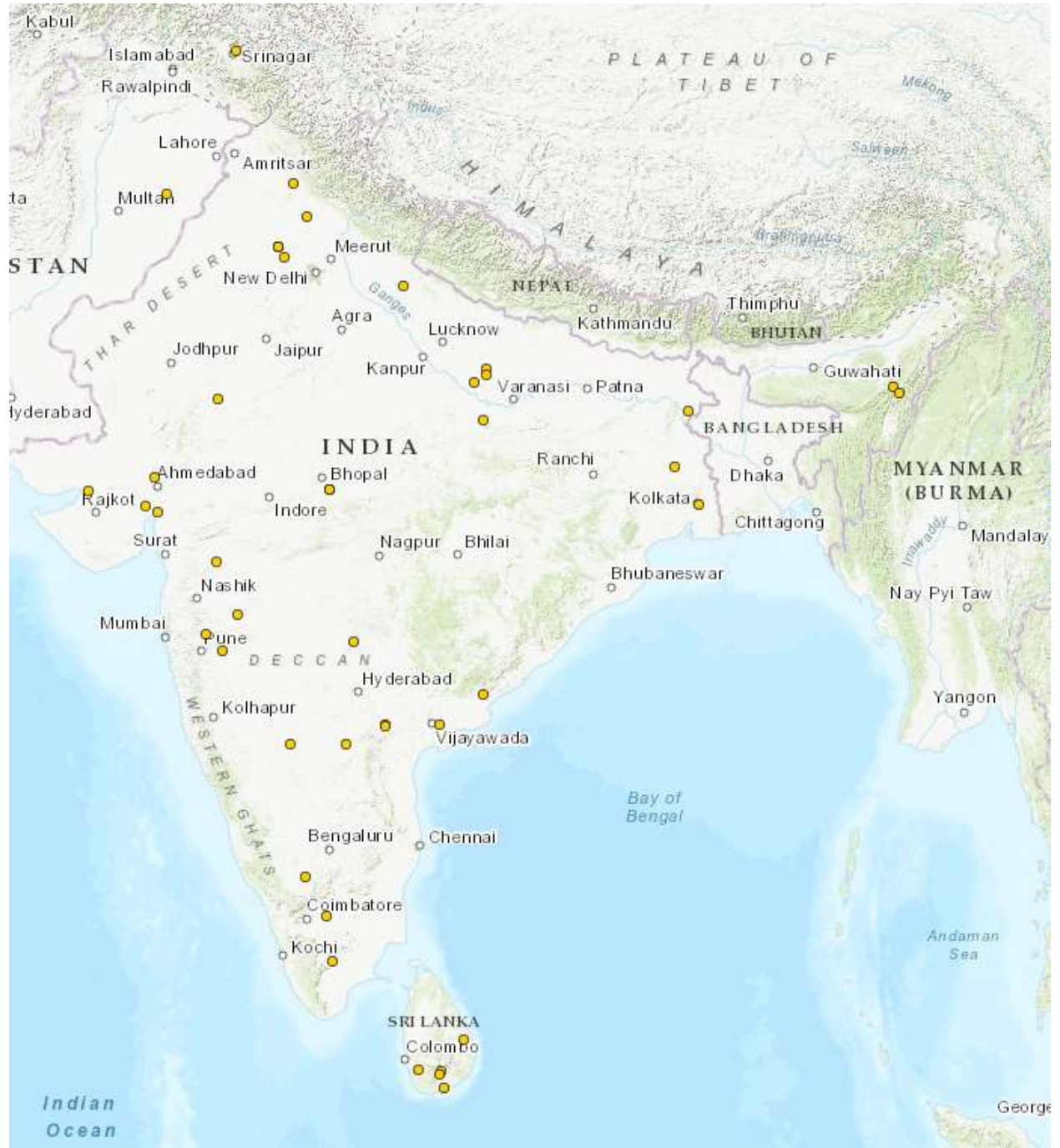
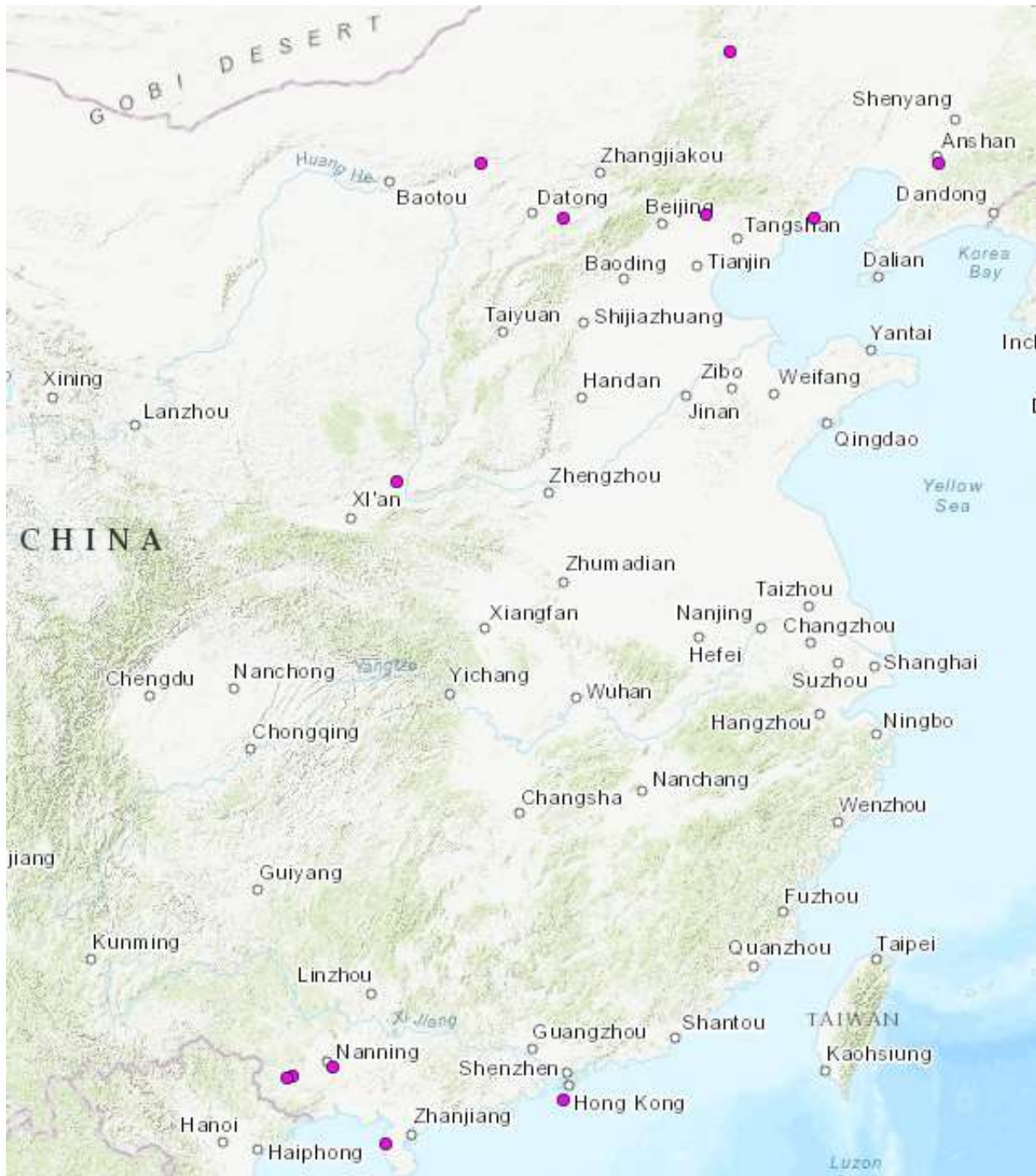


Figure S1d. Location of Archaeological sites in China



**Table S1.** Archaeological sites from which skeletal material used in this study were derived

Site	YearsBP	Region	Latitude	Longitude
A303	4250	Britain	51.20	-1.80
Abhaipur	2800	South Asia	28.30	79.75
Abu Ghosh (TAU)	9985	West Asia	31.80	35.10
'Ain Ghazal	9850	West Asia	31.99	35.98
Ain Mallaha	12375	West Asia	33.09	35.58
Ain Mallaha	12375	West Asia	33.09	35.58
Ajvide	4700	Scand./Finland	57.30	18.20
Amesbury	4350	Britain	51.20	-1.80
Ardu (Kose)	4650	Baltics	59.10	25.35
Arene Candide	10500	Italy	44.20	8.30
Asnæs	1900	Scand./Finland	55.80	11.50
Åstrup Ås	4800	Scand./Finland	54.90	12.10
Ayn Qasiyah	23000	West Asia	31.83	36.82
Bab edh-Dhra'	4675	West Asia	31.25	35.54
Bad Durrenberg	4550	N.-Cen. Europe	51.30	12.10
Bad Sulza	7150	N.-Cen. Europe	51.10	11.60
Badari	6500	Nile	26.90	31.50
Baghai Khor	4500	South Asia	24.80	82.10
Bagor Historic	550	South Asia	25.36	74.37
Balupur	450	South Asia	25.06	88.06
Barma Grande	29576	Italy	43.80	7.60
Battlesbury Bowl	2100	Britain	51.20	-2.10
Bedinge	4550	Scand./Finland	55.40	13.40
Bellan Bandi Palassa	11000	South Asia	6.52	80.81
Bernhardsthal	4000	N.-Cen. Europe	48.70	16.90
Bhagwanpura	3200	South Asia	30.07	76.95
Bhimbetka Mesolithic	6250	South Asia	22.94	77.61
Bichon	13504	N.-Cen. Europe	47.20	6.90
Bilzingsleben	4550	N.-Cen. Europe	51.30	11.10
Birsmatten	6290	N.-Cen. Europe	47.40	7.50
Bischleben	7300	N.-Cen. Europe	50.90	11.00
Blackgate	925	Britain	55.00	-1.60
Bloksbjerg	6232	Scand./Finland	55.50	12.40
Bodal Mose	5790	Scand./Finland	55.60	11.50
Bøgebjerg	1900	Scand./Finland	55.80	11.40
Bonifacio	10000	France	41.40	9.20
Borre	3975	Scand./Finland	55.00	12.40
Boscombe, LC	4250	Britain	51.20	-1.70
Bottendorf	6850	N.-Cen. Europe	51.30	11.40
Brandysek	4250	N.-Cen. Europe	50.20	14.20

Site	YearsBP	Region	Latitude	Longitude
Braunsdorf	4550	N.-Cen. Europe	51.00	13.60
Bray's Cave	3750	Southern Europe	36.13	-5.33
Brezno (BBC)	4250	N.-Cen. Europe	50.40	13.40
Broskov	1700	Scand./Finland	55.10	12.00
Brozany	4600	N.-Cen. Europe	50.50	14.20
Bruchstedt	7000	N.-Cen. Europe	51.20	10.80
Brucknendorf	1300	N.-Cen. Europe	48.00	16.80
Bruniquel	18394	France	45.70	2.00
Burzahom	3900	South Asia	34.17	74.87
Bystrocice	3600	N.-Cen. Europe	49.50	17.20
Cachovice	4550	N.-Cen. Europe	50.30	14.90
Cap Blanc	13000	France	46.00	1.10
Castellon Alta, Granada	3450	Iberia	37.70	-2.60
Caviglione	30965	Italy	43.80	7.60
Chancelade	13000	France	46.00	0.60
Chandoli	3200	South Asia	19.00	74.00
Chinnamarur	3350	South Asia	15.97	78.09
Chongtang/Jianbian	5000	South China	22.46	107.37
Chrastany 1	3850	N.-Cen. Europe	50.00	14.30
Cliff's End	3050	Britain	51.30	1.40
Cockey Down	2150	Britain	51.10	-1.80
Cockey Down	2250	Britain	51.10	-1.80
Crichel Down	3950	Britain	50.90	-2.00
Cro-Magnon	32285	France	45.30	1.00
Culoz	8550	France	46.10	5.80
Cuzoul de Gramat	7720	France	44.80	1.70
Damdama	8750	South Asia	26.17	82.17
Dingsishan	7500	South China	22.73	108.48
Døjringe	5600	Scand./Finland	55.50	11.60
Dolni Vestonice	4250	N.-Cen. Europe	48.90	16.60
Dolní Vestonice	31427	N.-Cen. Europe	49.10	16.70
Dragsholm	5928	Scand./Finland	55.80	11.40
Dresden Briesnitz	950	N.-Cen. Europe	51.10	13.70
Drosa	4550	N.-Cen. Europe	51.80	11.90
Egebjerg	1700	Scand./Finland	55.10	10.50
Ein Gev	13000	West Asia	32.70	35.60
El-Wad	14050	West Asia	32.66	35.02
Endegårde	1700	Scand./Finland	55.10	12.10
Englerup	1700	Scand./Finland	55.70	11.80
Erfurt Nord	4550	N.-Cen. Europe	51.00	11.00
Eynan	12375	West Asia	33.09	35.58
Fa Hien	10390	South Asia	6.65	80.22



Site	YearsBP	Region	Latitude	Longitude
Farmana	4300	South Asia	29.04	76.31
Fontenoce Recanati	5450	Italy	43.40	13.50
Forlí-Celletta	5000	Italy	44.22	12.01
Franzhausen I (U)	3895	N.-Cen. Europe	48.30	15.70
Fraugde	1700	Scand./Finland	55.40	10.50
Frederiksberg	4550	Scand./Finland	55.70	12.50
Fridtorp	4600	Scand./Finland	57.60	18.30
Gammel Lundby	1700	Scand./Finland	55.10	11.90
Gemeinlebarn F	3845	N.-Cen. Europe	48.30	15.80
Gemeinlebarn-Mitte	4600	N.-Cen. Europe	48.30	15.80
Gjerrild	4550	Scand./Finland	56.50	10.80
Gough's Cave	10224	Britain	51.30	-2.80
Græsbjerg	1800	Scand./Finland	55.10	12.10
Grose	3975	Scand./Finland	55.80	12.30
Großfahner	4550	N.-Cen. Europe	51.10	10.80
Großkayna	4550	N.-Cen. Europe	51.30	11.90
Groszmugl	3960	N.-Cen. Europe	48.50	16.20
Grotte des Enfants	13034	France	43.80	7.60
Grydehøj	4800	Scand./Finland	54.80	11.40
Hainburg	3800	N.-Cen. Europe	48.10	16.90
Hajdučka Vodenica	7750	Balkans	44.60	22.30
Halbturn	1650	N.-Cen. Europe	47.90	17.00
Hallebyga°rd	5547	Scand./Finland	55.60	11.30
Harappa	4300	South Asia	30.63	72.87
Haunø-Lauenkjer	4800	Scand./Finland	56.50	9.40
Hayonim	12505	West Asia	32.92	35.22
Hazleton North	5400	Britain	51.90	-1.90
Hecun	4250	South China	22.50	107.50
Hellested	5025	Scand./Finland	55.30	12.30
Helsinki	65	Scand./Finland	60.20	24.90
Hierakonpolis	5500	Nile	25.10	32.80
Himlingøje	1700	Scand./Finland	55.40	12.20
Hjortholm Mose	4800	Scand./Finland	54.80	10.70
Hobersdorf	3960	N.-Cen. Europe	48.60	16.60
Hoedic	7412	France	47.30	-2.90
Holmegård	9042	Scand./Finland	55.30	11.70
Holmstrup	5350	Scand./Finland	55.90	11.60
Holubice IV	4250	N.-Cen. Europe	49.20	16.80
Hulin-Pravcice 1	3600	N.-Cen. Europe	49.30	17.50
Inamgaon	3050	South Asia	18.58	74.50
Ire	4581	Scand./Finland	57.90	18.80
Jau Dignac	1350	France	45.80	-0.90

Site	YearsBP	Region	Latitude	Longitude
Jebel Sahaba	13000	Nile	21.98	31.33
Jena	10	N.-Cen. Europe	50.90	11.60
Jenisuv Ujezd	2200	N.-Cen. Europe	50.60	13.70
Jericho	3700	West Asia	31.87	35.44
Jiangjialiang	7789	North China	40.00	114.00
Jinggouzi	2350	North China	43.00	118.00
Jinonice	2200	N.-Cen. Europe	50.00	14.40
Jotsoma	200	South Asia	25.67	94.06
Kaothe	3900	South Asia	21.00	74.33
Kawa	2000	Nile	19.10	30.50
Kbely	4250	N.-Cen. Europe	50.10	14.60
Kelderød	5300	Scand./Finland	55.40	11.50
Kerma	3800	Nile	19.60	30.40
Kerma	3575	Nile	19.63	30.39
Kharaneh IV	19000	West Asia	31.72	36.45
Knezeves (BBC)	4250	N.-Cen. Europe	50.10	14.30
Kobylysy	4550	N.-Cen. Europe	50.10	14.40
Kodumanal	2000	South Asia	11.11	77.51
Koelbjerg	9000	Scand./Finland	55.90	10.20
Kölljala (Püha)	6135	Baltics	58.36	22.72
Korsør Glaesverk	7079	Scand./Finland	55.30	11.20
Korsør Nor	4800	Scand./Finland	55.30	11.20
Kuclin	4550	N.-Cen. Europe	50.50	13.80
Kuntasi	700	South Asia	22.91	70.59
Kuragala	7060	South Asia	6.63	80.87
La Rochette	28563	France	45.00	1.10
Lamadong	1650	North China	40.00	120.00
Landlystvej	1900	Scand./Finland	55.70	12.50
Langebjerget	4800	Scand./Finland	55.10	11.80
Langhnaj	4300	South Asia	23.27	72.53
Lanhill	4950	Britain	51.50	-2.20
Laxenburger Str./Voesend	1300	N.-Cen. Europe	48.10	16.40
Le Peyrat	14051	France	45.20	1.10
Le Peyrat	14051	France	45.20	1.10
Le Rastel	6575	France	43.80	7.40
Leiria	625	Iberia	39.70	-8.80
Leopoldsdorf	4250	N.-Cen. Europe	48.30	16.40
Lepinski Vir	10350	Balkans	44.00	22.00
Leshmi	350	South Asia	25.52	94.24
Libesice	4550	N.-Cen. Europe	50.50	13.80
Liyudun	6500	South China	21.02	109.73
Lochenice	4250	N.-Cen. Europe	50.30	15.80

Site	YearsBP	Region	Latitude	Longitude
Los Canes	7162	Iberia	43.30	-4.80
Loschbour	8047	France	49.80	6.20
Lothal Mature Harappan	4000	South Asia	22.52	72.25
Lucus Feroniae	1850	Italy	42.10	12.60
Luis Lopez Collection	50	Iberia	38.70	-9.10
Lumby grusgrav	1700	Scand./Finland	55.30	10.40
Lyregård	1800	Scand./Finland	55.60	12.00
Mahadaha	6300	South Asia	26.00	82.19
Makotrasy	2200	N.-Cen. Europe	50.10	14.20
Male Brezno	4550	N.-Cen. Europe	50.70	14.20
Marbjerg	3975	Scand./Finland	55.70	12.20
Melchendorf	2950	N.-Cen. Europe	51.00	11.10
Melk	3845	N.-Cen. Europe	48.20	15.30
Mikulcice	1150	N.-Cen. Europe	48.80	17.10
Mini-athiliya	5650	South Asia	6.12	80.94
Mistihalj	550	Balkans	42.50	18.40
Moedling	1225	N.-Cen. Europe	48.10	16.30
Moirans	250	France	45.70	5.50
Moita de Sebastiao	7025	Iberia	39.10	-8.70
Mokruvky	4250	N.-Cen. Europe	49.00	16.90
Molara	9632	Italy	38.10	13.30
Mondeval	8138	Italy	46.50	12.20
Most	4550	N.-Cen. Europe	50.50	13.60
Muge Arruda	7296	Iberia	39.10	-8.40
Muuksi Hundikangrute 5 kalme (Kuusalu)	2700	Baltics	59.50	25.53
Næstved Mark	1700	Scand./Finland	55.20	11.80
Nagajunakonda Megalithic	2550	South Asia	16.52	79.24
Nahal Ein Gev	24000	West Asia	32.78	35.67
Nahal-Oren	12905	West Asia	32.70	34.90
Neiyangyuang	3187	North China	35.00	110.00
Neuessing	21922	N.-Cen. Europe	48.90	11.80
Nevasa	3250	South Asia	22.94	77.61
Nevasa	1875	South Asia	19.55	74.93
Niederbosa	4950	N.-Cen. Europe	51.30	11.00
Nordenbrogård	1900	Scand./Finland	54.80	10.70
Oberkassel	14241	N.-Cen. Europe	50.70	7.20
Øbjerggård	1800	Scand./Finland	55.10	11.80
Obrnice	4550	N.-Cen. Europe	50.50	13.70
Observance(OBS)	250	France	43.30	5.40
Ohalo 2	19000	West Asia	32.72	35.57
Ohalo 2	19000	West Asia	32.72	35.57

Site	YearsBP	Region	Latitude	Longitude
Olmo di Nogara	3400	Italy	45.20	11.10
Opava-Pivovar	650	N.-Cen. Europe	49.90	17.90
Orlishausen	4550	N.-Cen. Europe	51.10	11.20
Østrup Mose	5182	Scand./Finland	55.60	11.50
Ostuni	29190	Italy	40.70	17.50
Otterup	1075	Scand./Finland	55.50	10.40
Over Vindinge	3975	Scand./Finland	55.10	11.90
P37	4225	Nile	19.63	30.39
Pada kalmistu (Viru-Nigula)	1000	Baltics	59.43	26.71
Padina	7860	Balkans	44.60	22.00
Padri	2000	South Asia	22.37	72.58
Paglicci	28396	Italy	41.70	13.60
Pandu Rajar Dhibi	3000	South Asia	23.57	87.65
Parabita (Veneri)	26406	Italy	40.10	18.10
Paviland	33700	Britain	51.50	4.30
Pavlov	4250	N.-Cen. Europe	50.10	14.20
Pavlov	31039	N.-Cen. Europe	48.90	16.60
Peqi'in (TAU)	6300	West Asia	32.97	35.33
Piazza della Signoria	650	Italy	44.10	11.30
Piklihal Upper Neolithic	2950	South Asia	15.97	76.45
Pitten	3450	N.-Cen. Europe	47.70	16.20
Plotiste	4250	N.-Cen. Europe	50.20	15.80
Pochampad	3125	South Asia	18.83	78.33
Pohorelice	4550	N.-Cen. Europe	49.00	16.50
Pontcharaud	6100	France	45.80	3.10
Ponte S. Pietro	5300	Italy	42.54	11.76
Poplze	4550	N.-Cen. Europe	50.40	14.00
Poregård	5025	Scand./Finland	55.00	10.70
Porsmose	5449	Scand./Finland	55.30	11.70
Porvoo	250	Scand./Finland	60.40	25.70
Postoloprty	4550	N.-Cen. Europe	50.40	13.70
Pottenbrunn	3845	N.-Cen. Europe	48.20	15.70
Poundbury	1650	Britain	50.70	-2.50
Predmostí	30965	N.-Cen. Europe	49.50	17.40
Prosetice	4550	N.-Cen. Europe	50.60	13.80
Quadrella	1800	Italy	41.00	14.60
R12	6450	Nile	19.37	30.61
Radegast	4550	N.-Cen. Europe	51.40	12.90
Radovesice	2200	N.-Cen. Europe	50.40	14.10
Radovesice	4250	N.-Cen. Europe	50.40	14.10
Rakefet	11470	West Asia	32.70	34.90
Rakhghari	4450	South Asia	29.29	76.11

Site	YearsBP	Region	Latitude	Longitude
Rakhghari	4450	South Asia	29.29	76.11
Raqefet	11470	West Asia	32.73	35.05
Ratzersdorf	5150	N.-Cen. Europe	48.20	15.70
Rebala kalme (Jöelähtme)	1975	Baltics	59.45	25.10
Rebala Lastekangur nr 2 (Jöelähtme)	2700	Baltics	59.45	25.10
Renko	320	Scand./Finland	60.90	24.30
Ripa Tetta	7500	Italy	41.50	15.33
Riparo Continenza	12095	Italy	42.00	13.50
Riparo Tagliente	16332	Italy	45.60	11.00
Rochereil	13000	France	45.70	0.60
Romanelli	13000	Italy	40.00	18.40
Romito	13051	Italy	39.90	15.90
Roselle	1250	Italy	42.80	11.10
Rousí'nov	4550	N.-Cen. Europe	49.20	16.90
Rue Jacques Brel	1825	France	45.80	-0.60
Rupar	3750	South Asia	30.90	76.55
S Pappinayakanpatta	2000	South Asia	9.81	77.70
Saint Germain-la-Rivière	19013	France	44.90	0.20
Saint-Martin-de-Corléan	4400	Italy	45.74	7.30
Samari	7500	Italy	40.02	18.02
San Baudelio de Berlanga	850	Iberia	41.40	-2.80
San Benedetto-Iglesias	5800	Italy	39.36	8.53
San Teodoro	13000	Italy	38.00	14.60
Sanderumgård	1700	Scand./Finland	56.00	10.00
Santa Maria de Hito	1050	Iberia	42.80	-3.90
Sarai Nahar Rai	10000	South Asia	25.81	81.84
Sassari	100	Italy	40.80	8.80
Scab'e Arriu	4600	Italy	39.67	8.89
Schafstadt	4550	N.-Cen. Europe	51.40	11.80
Scheelminde	1900	Scand./Finland	57.00	9.90
Schela Cladovei	9271	Balkans	46.30	22.40
Schleinbach	3960	N.-Cen. Europe	48.40	16.50
Schlotheim	7150	N.-Cen. Europe	51.20	10.40
Schonstedt	4950	N.-Cen. Europe	51.10	10.60
Sejrø	6025	Scand./Finland	55.90	11.20
Sha Ling	30	South China	22.00	114.00
Shenyang	257	North China	41.00	123.00
Shiqmim	6150	West Asia	31.10	34.50
Shrewton	3950	Britain	51.20	-1.90
Sigtuna (Nunnan)	1005	Scand./Finland	59.60	17.70
Simonsborg	1900	Scand./Finland	55.40	11.70
Siracusani	150	Italy	37.10	15.30

Site	YearsBP	Region	Latitude	Longitude
Siroke Trebcice	4550	N.-Cen. Europe	50.30	13.40
Skafterup Mark	1900	Scand./Finland	55.20	11.50
Skateholm I	6950	Scand./Finland	55.40	13.50
Skendleby	5000	Britain	53.20	0.10
Sondershausen	7300	N.-Cen. Europe	51.40	10.90
Spitalfields	225	Britain	51.50	-0.10
St.Tuborg	3975	Scand./Finland	55.70	12.50
Staxton	4150	Britain	54.20	-0.40
Stonehenge	4350	Britain	51.20	-1.80
Store Grandløse	1900	Scand./Finland	55.70	11.80
Store Keldbjerg	1900	Scand./Finland	54.70	10.70
Store Lyng	5167	Scand./Finland	55.60	11.50
Sunghir	27530	Scand./Finland	56.10	40.40
T. Narsipur	3500	South Asia	12.20	76.90
Tamula Asula (Røuge)-Early Neo	5883	Baltics	57.84	26.99
Tamula Asula (Røuge)-Late Neo	4940	Baltics	57.84	26.99
Taohuayuan	380	North China	40.07	117.43
Tenner	3750	South Asia	16.49	80.81
Terrera Del Reloh, 1983	3450	Iberia	37.60	-3.10
Teviec	7363	France	48.10	-3.00
Toedling	4250	N.-Cen. Europe	48.20	14.40
Trasano	7500	Italy	40.67	16.64
Tucapy	4550	N.-Cen. Europe	49.00	17.30
Tuchengzi	2351	North China	41.00	112.00
Tuchomerice (BBC)	4250	N.-Cen. Europe	50.10	14.30
Tybrind Vig	7663	Scand./Finland	55.80	9.90
Udestedt (2)	4550	N.-Cen. Europe	51.00	11.10
University of Toronto te	40	South Asia	22.57	88.37
Unseburg	4550	N.-Cen. Europe	51.90	11.50
Unseburg	8550	N.-Cen. Europe	52.30	11.50
Unterhautzenthal	3960	N.-Cen. Europe	48.40	16.10
'Uyyun al-Hammam	16500	West Asia	32.50	35.70
Uzzo	10455	Italy	38.20	12.70
Vængesø 2	6348	Scand./Finland	56.10	10.50
Varpelev	1700	Scand./Finland	55.40	12.30
Västerbjers	4700	Scand./Finland	57.60	18.70
Vatte di Zambana	8612	Italy	46.20	11.10
Veddah	100	South Asia	7.54	81.50
Veerabyina Kunta	3750	South Asia	17.34	82.11
Velika Ves	4550	N.-Cen. Europe	50.30	13.40
Vemmeltofte Skovridergå	1700	Scand./Finland	55.20	12.30
Veyrier	5523	N.-Cen. Europe	46.20	6.20

Site	YearsBP	Region	Latitude	Longitude
Viby	4550	Scand./Finland	55.50	12.00
Vicenne Campochiaro	1300	Italy	41.50	14.50
Vikletice	4550	N.-Cen. Europe	50.40	13.40
Viksø	5753	Scand./Finland	55.80	12.20
Villabruna	14204	Italy	46.10	11.50
Villanueva de Soportiva	1025	Iberia	42.80	-3.10
Visby	4700	Scand./Finland	57.60	18.30
Vlasac	7860	Balkans	44.50	22.00
Vrbice	4550	N.-Cen. Europe	48.90	16.90
Vrsany	700	N.-Cen. Europe	50.50	13.10
Vyskov	4550	N.-Cen. Europe	49.20	17.00
Wadi Makkuk	6250	West Asia	31.80	35.50
Wadi Shu'eib	8025	West Asia	31.96	35.70
Wadi-Mataha	14000	West Asia	30.00	35.00
Wayland's Smithy I	5500	Britain	51.60	-1.60
Weißensee	4550	N.-Cen. Europe	52.50	13.50
West Kennet	5600	Britain	51.40	-1.90
Westerhus	800	Scand./Finland	63.20	14.40
Wetwang Slack	2250	Britain	54.00	-0.60
Wilsford S. Lake	3875	Britain	51.10	-1.80
Wuernitz	3960	N.-Cen. Europe	48.40	16.40
Xaghra <sup>1</sup>	4650	Southern Europe	36.05	14.26
Yeleswaram	2250	South Asia	16.47	79.22
York	825	Britain	54.00	-1.10
Zabovresky	4250	N.-Cen. Europe	50.00	14.40
Zidovice	4250	N.-Cen. Europe	50.40	14.20
Zvejnieki - Early Mesolithic	8825	Baltics	57.78	25.23
Zvejnieki-Early Neolithic	6625	Baltics	57.78	25.23
Zvejnieki-Late Bronze Age	2725	Baltics	57.78	25.23
Zvejnieki-Late Mesolithic	7000	Baltics	57.78	25.23
Zvejnieki-Middle Mesolithic	7825	Baltics	57.78	25.23
Zvejnieki-Middle Neolithic	5575	Baltics	57.78	25.23
Zwentendorf	975	N.-Cen. Europe	48.60	16.40

<sup>1</sup> On the small archipelago of Malta, a multi proxy approach drawing on artistic representation, isotopic studies, animal slaughter patterns and life course profiles of health and disease from human remains suggests a local variation in metabolic outcomes amongst a minority of the population. Figurines (15) show that high body mass was observed by prehistoric populations, but human osteological studies suggest that this was on a low frequency (16). We can hypothesize that poor health and diet in the early infant stages of the life course, detectable from the osteological record (Power et al., 2022), may have selectively led to high body mass in some individuals surviving to adulthood whose diet was enriched by

dairy products, as interpreted from isotopic studies (18), lipid analysis (19) and the slaughter patterns of dairy animals (20).

### Supplementary methods:

Statistical tests and box plots were generated in SPSS for Windows v.28 (IBM, Inc.). Scatterplots were generated in R v.4.0.4 (21) using RStudio v.2022.02.3 (22), using the packages ggplot2 (23) and scales (24). Curves were fitted using lowess with smoothing (“span”) set at 0.8 except where data were more sparse or unevenly distributed meaning that higher smoothing values were needed to ensure a visually acceptable line fit. In these cases, the smoothing parameter is specified in the figure.

Heat maps were also generated in R v.4.0.4 (21) using RStudio v.2022.02.3 (22), using the packages sp (25), rgdal (26), scales (24), raster (27), dplyr (28), akima (29) and tmap (30), and with code modified from Rochette (2017). Data were interpolated using a squared inverse distance weighting, and with distances calculated based on great circle distances. Raster files of interpolated data were imported into QGIS Desktop 3.16.8 (32) for final presentation.

Example code for scatterplots with lowess curves:

```
# load relevant libraries
```

```
library(ggplot2)
library(scales)
```

```
# region 2 Southern Europe
```

```
lowess<-subset(GlobalSubsistenceBodySize_Final_2022_06_03, RegCode2 == "2" & (Sex == "M" | Sex == "F"),select=c(NEWBM, YearsBP, DateNeg,RegCode2,Sex))
```

```
ggplot(data=lowess, aes(x=YearsBP, y=NEWBM,col=Sex,))+stat_smooth(span = 0.9) +
scale_x_reverse(limits=c(13000,0),expand = c(0,0), labels = label_number(scale = 1e-3, accuracy = 1),
breaks = seq(13000, 0, by = -1000) , minor_breaks = NULL) + xlab("Thousand years before present") +
ylab("Body mass (kg)") + scale_y_continuous(limits=c(40,90),expand=c(0,0), minor_breaks = NULL) +
geom_point(alpha = 0.2) + theme(text = element_text(size = 18))
```

Example code for stature heat maps:

```
# load relevant libraries
```

```
library(sp)
library(rgdal)
library(scales)
library(raster)
library(dplyr)
library(akima)
library(tmap)
```

```
# Select data
```



```
htEurope<-subset(SiteMeans.Europe, YearsBP>=10000, select=c(lat,lon,Stat_Mean))
```

```
# Set up a grid and project the dataset (latitude and longitude columns are labelled 'lat' and 'lon' respectively)
```

```
par(mfrow=c(2,1), mar=c(0,0,0,0))  
grd <- expand.grid(lon = seq(-12,30, by = 5),  
                  lat = seq(30, 80, by=5))  
coordinates(grd) <- ~lon + lat  
gridded(grd) <- TRUE  
plot(grd, add=F, col=grey(.8))
```

```
coordinates(htEurope) = ~lon + lat  
points(htEurope, col=htEurope$Stat_Mean + 2, pch=16, cex=.6)
```

```
# Set the number of datapoints on the grid which will then be used to calculate distances and create the interpolated data
```

```
nx <- 421  
ny <- 401  
xo <- seq(-12, 39, len=nx)  
yo <- seq(30, 69, len=ny)  
xy <- as.data.frame(coordinates(htEurope))
```

```
# Create raster image
```

```
htrEurope <- raster(nrows=ny, ncols=nx, crs='+proj=longlat',  
                  xmn=-12, xmx=30, ymn=30, ymx=70)
```

```
# Calculate distance between points and raster
```

```
htEurope.htrEurope.dists <- spDists(x = coordinates(htEurope), y = coordinates(htrEurope), longlat = TRUE)
```

```
# Inverse distance weighted interpolation
```

```
idp <- 2  
inv.w <- (1/(htEurope.htrEurope.dists^idp))  
z <- (t(inv.w) %*% matrix(htEurope$Stat_Mean)) / apply(inv.w, 2, sum)
```

```
htpred.Europe <- htrEurope  
values(htpred.Europe) <- z
```

```
# Export the data as raster file
```

```
writeRaster(htpred.Europe, filename = "HT_IDW2_Europe_pre_10000Y.asc")
```

**Note on use of dates:** Within the text of this paper we use BP or calBP to refer to dates that reflect specific radiocarbon dates, and kya to refer to date ranges and approximate timing of specific cultural transitions.

**Table S2: Stature estimation formulae from femur maximum length**

Region	Femur stature equation Male	Femur stature equation Female	Femur Stature Equation Generic	Reference
Levant	.2257 x FXL + 63.93	.2340 x FXL + 56.99	Avg of Male and Female	(33)
Southern Europe	.272 x FXL + 42.85	.269 x FXL + 43.56	.277 x FXL + 40.50	(34)
Central Europe	.272 x FXL + 42.85	.269 x FXL + 43.56	.277 x FXL + 40.50	(34)
Northern Europe	.272 x FXL + 42.85	.269 x FXL + 43.56	.277 x FXL + 40.50	(34)
Nile Valley	.2257 x FXL + 63.93	.2340 x FXL + 56.99	Avg of Male and Female	(33)
China	.2775 x FXL + 43.051	.2568 x FXL + 48.783	.2964 x FXL + 33.354	(35)
South Asia	.251 x FXL + 51.482	.266 x FXL + 42.384	Avg of Male and Female	(36)

**Table S3: Stature Estimation formulae from tibia maximum length**

Region	Tibia Stature Equation Male	Tibia Stature Equation Female	Tibia Stature Equation Generic	Reference
Levant	.2554 x TXL + 69.21	.2699 x TXL + 61.08	Avg of Male and Female	(33)
Southern Europe	.309 x TXL + 52.04	.292 x TXL + 56.94	.302 x TXL + 51.36	(34)
Central Europe	.309 x TXL + 52.04	.292 x TXL + 56.94	.313 x TXL + 50.11	(34)
Northern Europe	.309 x TXL + 52.04	.292 x TXL + 56.94	.302 x TXL + 51.36	(34)
Nile Valley	.2554 x TXL + 69.21	.2699 x TXL + 61.08	Avg of Male and Female	(33)
China	.2864 x TXL + 61.639	.2739 x TXL + 61.749	.3250 x TXL + 45.654	(35)
South Asia	.294 * TXL + 53.516	.286 x TXL + 51.880	Avg of Male and Female	(36)

**Table S4: Body Mass Estimation Equations**

Region	Body Mass Equation - Femoral Head Diameter	2. Body Mass Equation Tibia prox breadth	Reference
Levant	2.262 x FH - 38.7	1.623 x TPB - 52.7	(37)
Southern Europe	2.262 x FH - 38.7	1.623 x TPB - 52.7	(37)
Central Europe	2.262 x FH - 38.7	1.623 x TPB - 52.7	(37)
Northern Europe	2.262 x FH - 38.7	1.623 x TPB - 52.7	(37)
Nile Valley	2.262 x FH - 38.7	1.623 x TPB - 52.7	(37)
China	2.262 x FH - 38.7	1.623 x TPB - 52.7	(37)
South Asia	0.844 x FH + 0.876 (M)		(38)
	0.678 x FH + 1.377 (F)		(38)

Figure S2. Boxplots of Temporal variation in Stature and Body Mass, Pooled Samples

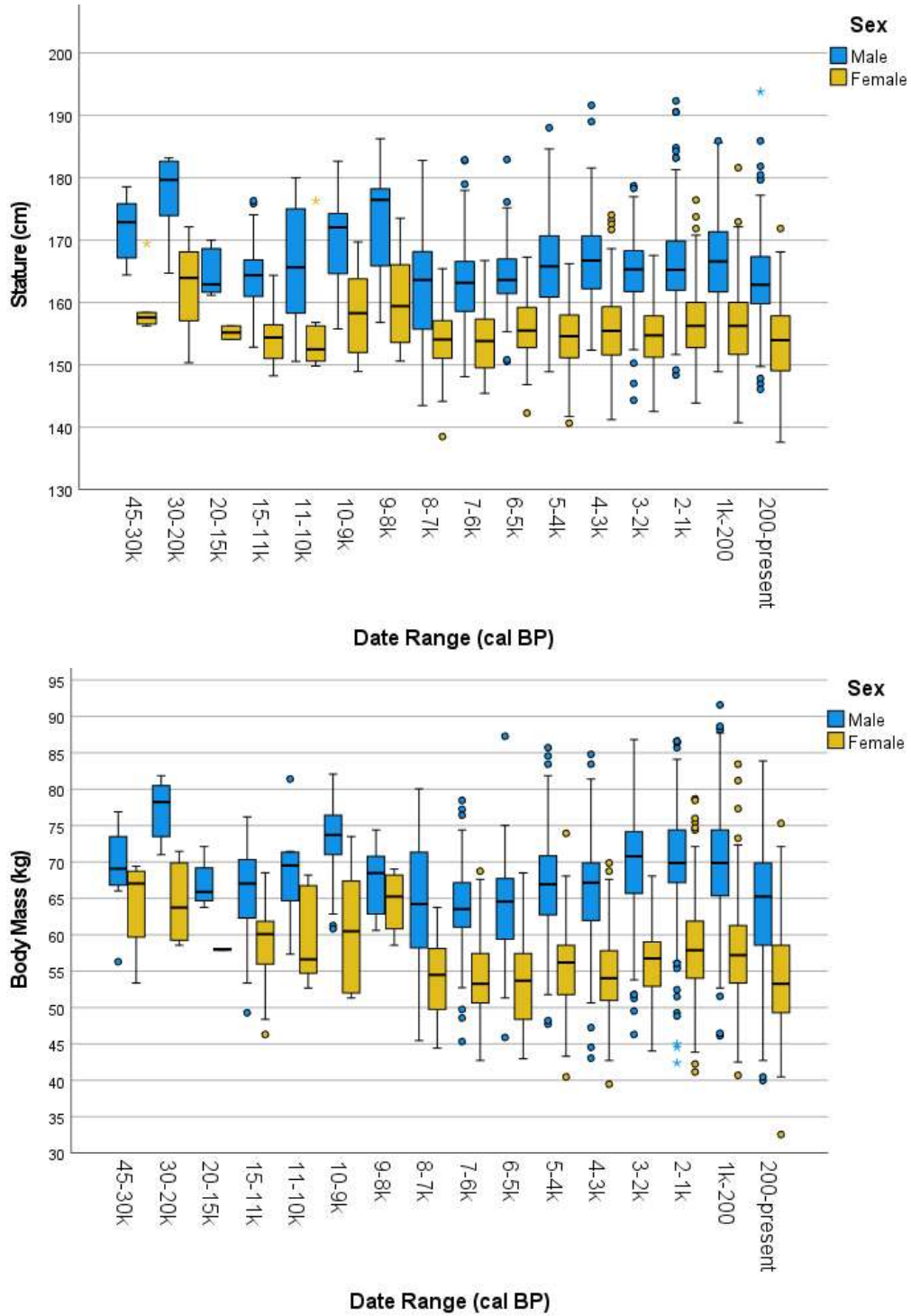


Figure S3. Boxplots of Temporal variation in Stature and Body Mass, Levantine Subsample

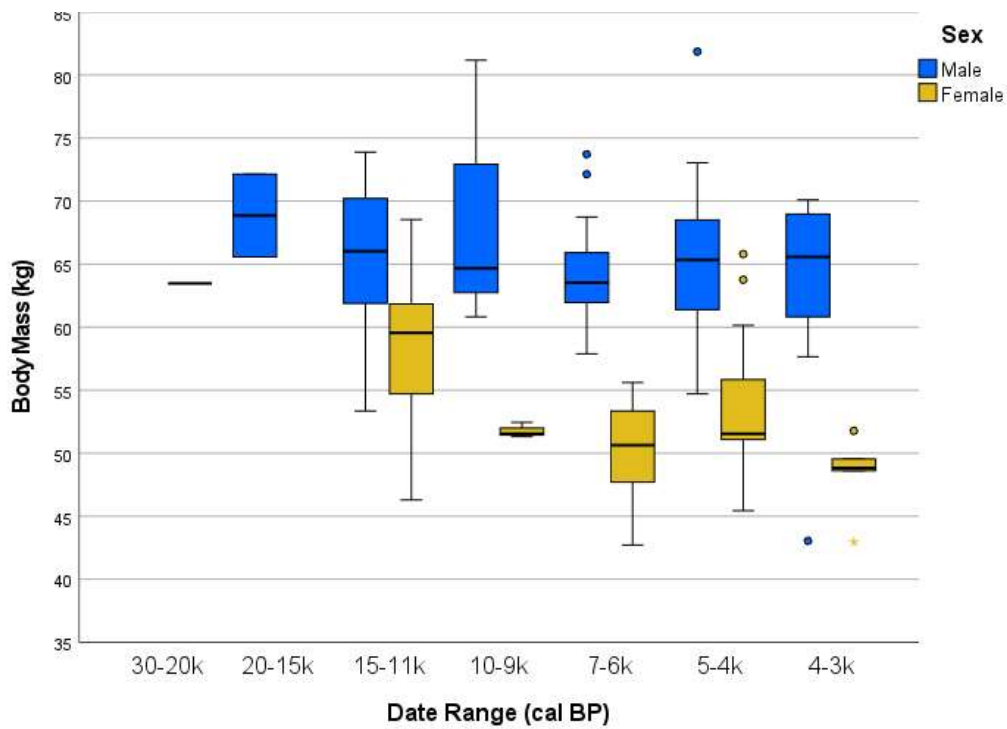
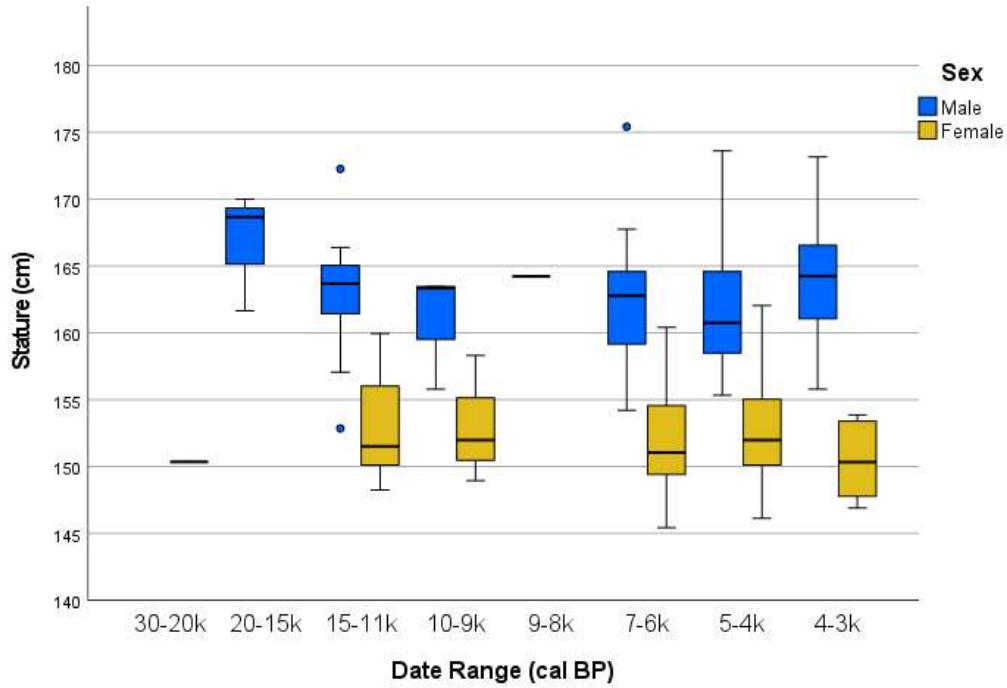
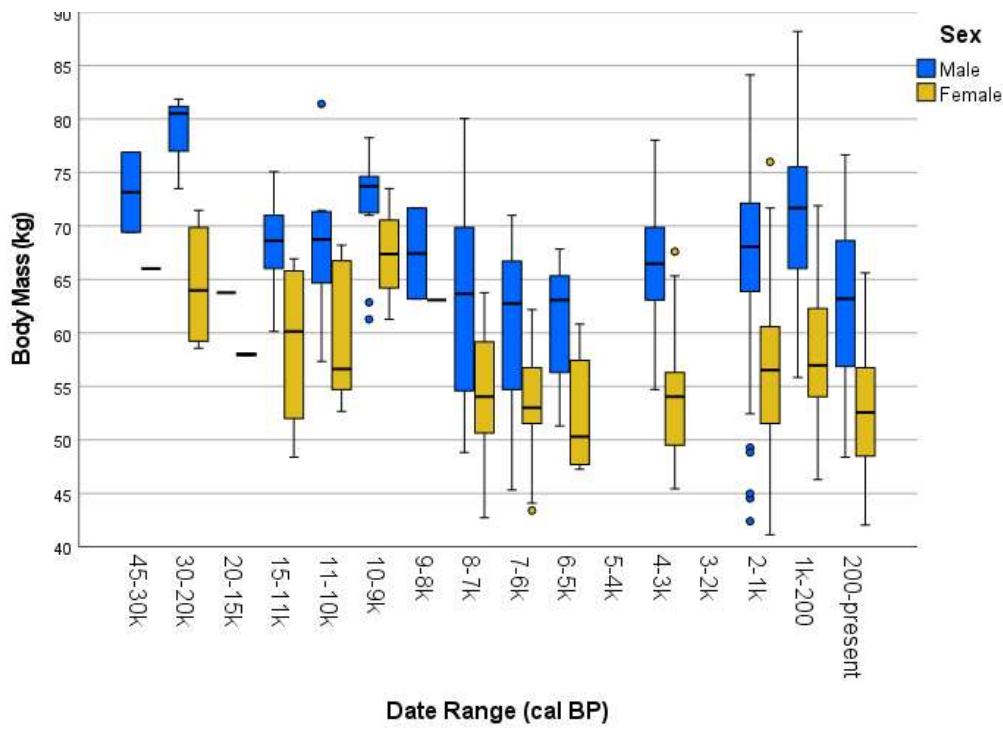
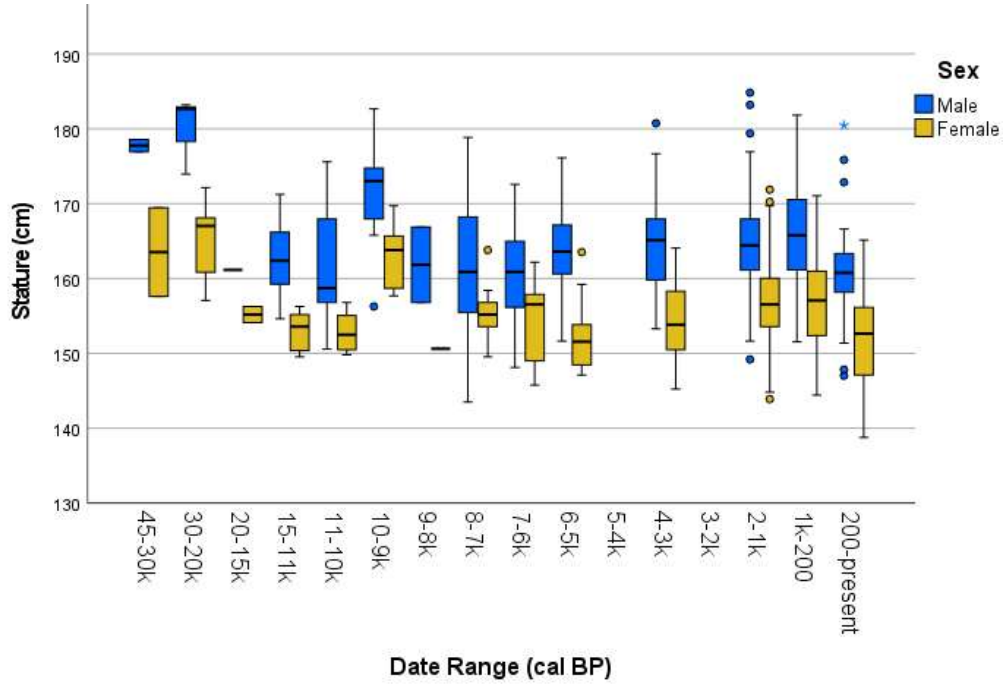
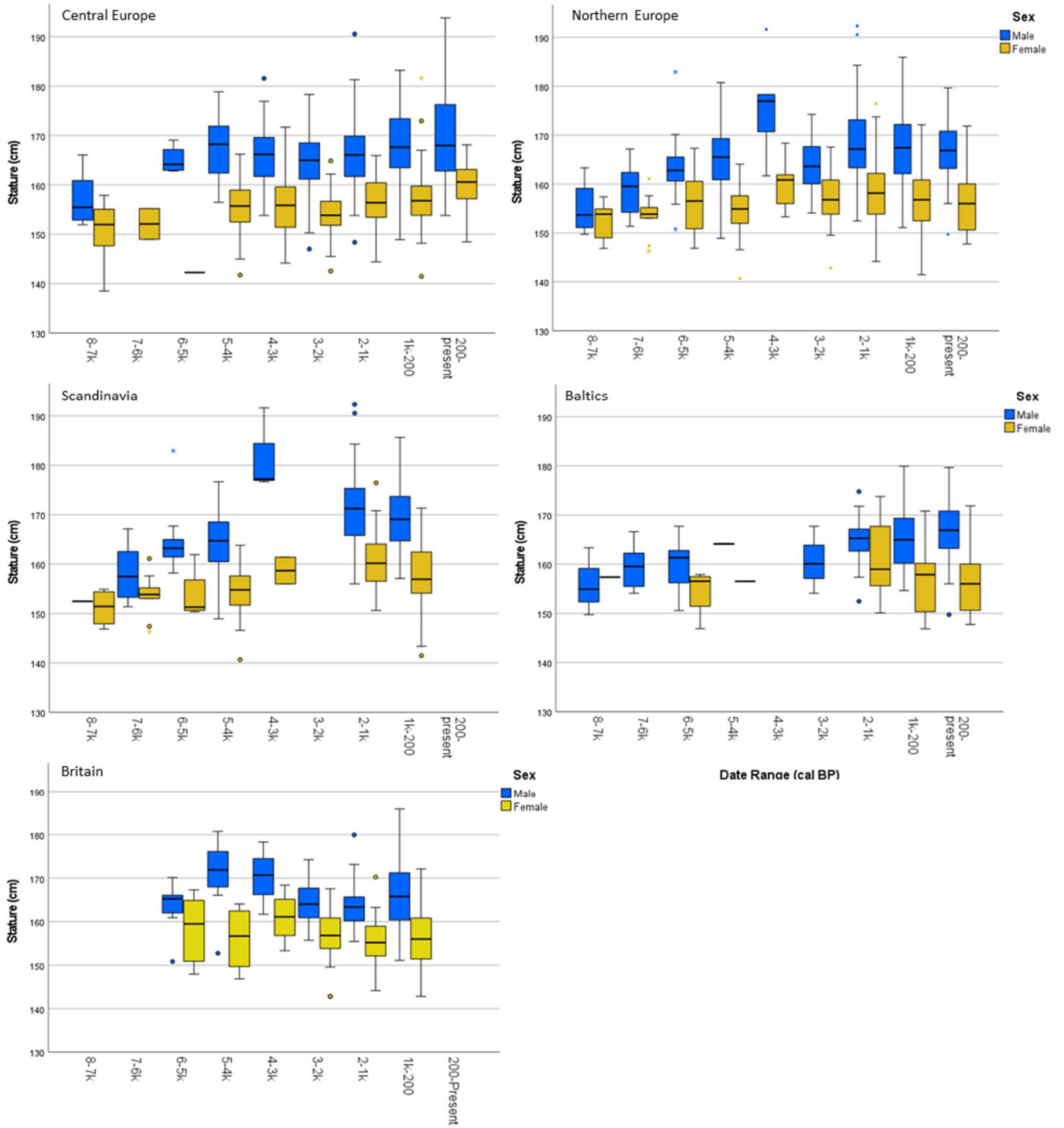


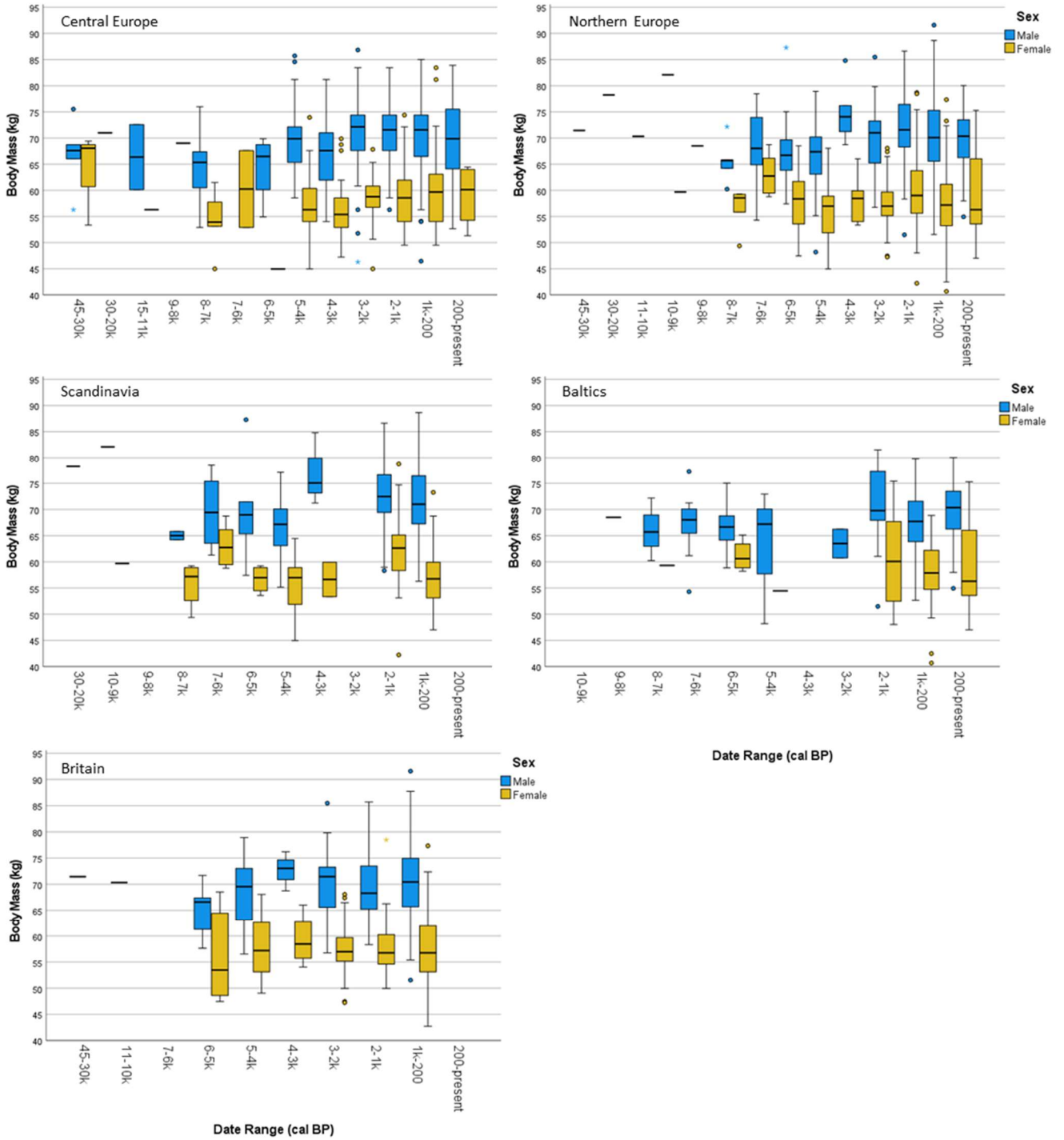
Figure S4: Boxplots of Temporal variation in Stature in Southern Europe



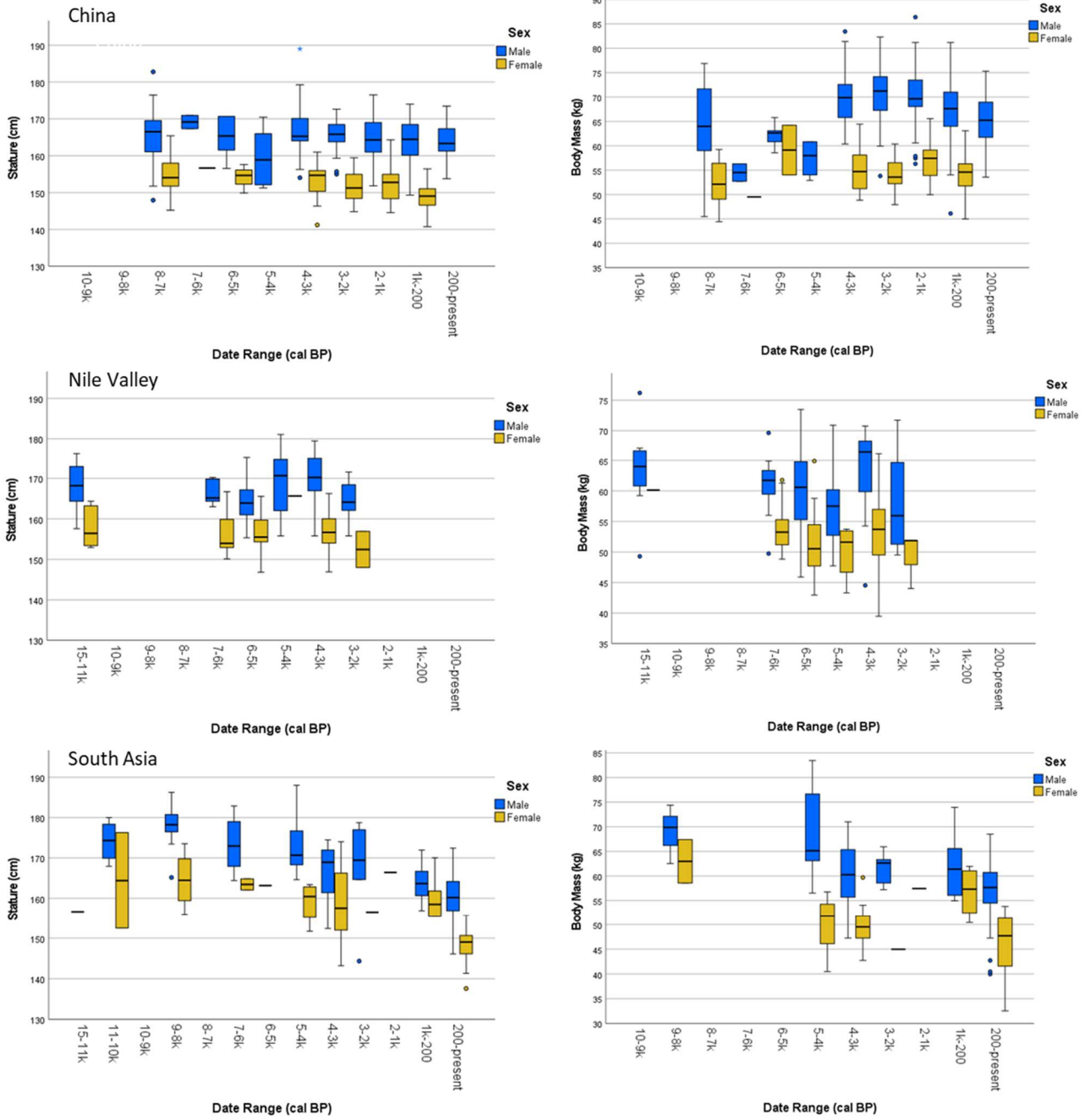
**Figure S5a:** Boxplots of Temporal variation in Stature in regions where there is evidence for strong selection for lactase persistence.



**Figure S5b:** Boxplots of Temporal variation in Body Mass in regions where there is evidence for strong selection for lactase persistence



**Figure S6:** Boxplots of Temporal variation in Stature and Body Mass in China, South Asia, and the Nile Valley





ANOVA results using Hochberg GT2 post-hoc tests on account of variable and uneven sample sizes are reported below to a significance level of  $\alpha=0.05$ . Values below  $\alpha=.1$  are highlighted to illustrate non-significant trends of interest.

**Table S5:** Levant Stature Male significant differences – Hochberg GT2 Post-Hoc Tests

	20-15k	15-11k	10-9k	7-6k	5-4k	4-3k
20-15k						
15-11k	0.773					
10-9k	0.616	0.962				
7-6k	0.652	0.993	0.998			
5-4k	0.621	0.977	0.999	1.000		
4-3k	0.909	0.993	0.858	0.892	0.820	
Significant $p \leq 0.100$			Significant $p \leq 0.050$			

**Table S6:** Levant Stature Female significant differences – Hochberg GT2 Post-Hoc Tests

	15-11k	10-9k	7-6k	5-4k	4-3k
15-11k					
10-9k	1.000				
7-6k	0.939	0.985			
5-4k	0.998	0.999	0.979		
4-3k	0.578	0.887	0.937	0.637	
Significant $p \leq 0.100$			Significant $p \leq 0.050$		

**Table S7:** Levant Body Mass Male significant differences – Hochberg GT2 Post-Hoc Tests

	20-15k	15-11k	10-9k	7-6k	5-4k	4-3k
20-15k						
15-11k	0.883					
10-9k	1.000	0.985				
7-6k	0.779	0.996	0.961			
5-4k	0.902	1.000	0.990	0.950		
4-3k	0.742	0.978	0.933	0.997	0.938	
Significant $p \leq 0.100$			Significant $p \leq 0.050$			

**Table S8:** Levant Body Mass Female significant differences – Hochberg GT2 Post-Hoc Tests

	15-11k	10-9k	7-6k	5-4k	4-3k
15-11k					
10-9k	0.135				
7-6k	0.071	0.742			
5-4k	0.350	0.534	0.257		
4-3k	0.028	0.296	0.763	0.110	
Significant $p \leq 0.100$			Significant $p \leq 0.050$		

**Table S9:** Southern Europe Stature Male significant differences - Hochberg GT2 Post-Hoc Tests

	45-30k	30-20k	15-11k	11-10k	10-9k	9-8k	8-7k	7-6k	6-5k	4-3k	2-1k	1k-200
45-30k												
30-20k	1.000											
15-11k	0.176	0.004										
11-10k	0.207	0.007	1.000									
10-9k	1.000	0.983	0.025	0.097								
9-8k	0.695	0.187	1.000	1.000	0.963							
8-7k	0.061	0.000	1.000	1.000	0.000	1.000						
7-6k	0.045	0.000	1.000	1.000	0.000	1.000	1.000					
6-5k	0.310	0.008	1.000	1.000	0.050	1.000	1.000	1.000				
4-3k	0.411	0.012	1.000	1.000	0.057	1.000	0.979	0.957	1.000			
2-1k	0.444	0.012	1.000	1.000	0.032	1.000	0.485	0.619	1.000	1.000		
1k-200	0.667	0.033	0.994	1.000	0.210	1.000	0.071	0.177	1.000	1.000	1.000	
200-pres	0.030	0.000	1.000	1.000	0.000	1.000	1.000	1.000	0.998	0.414	0.014	0.001
							Significant p≤0.100			Significant p≤0.050		

**Table S10:** Southern Europe Stature Female significant differences - Hochberg GT2 Post-Hoc Tests

	45-30k	30-20k	20-15k	15-11k	11-10k	10-9k	8-7k	7-6k	6-5k	4-3k	2-1k	1k-200
45-30k												
30-20k	1.000											
20-15k	1.000	0.930										
15-11k	0.841	0.055	1.000									
11-10k	0.739	0.018	1.000	1.000								
10-9k	1.000	1.000	0.999	0.286	0.137							
8-7k	0.976	0.064	1.000	1.000	1.000	0.420						
7-6k	0.759	0.005	1.000	1.000	1.000	0.067	1.000					
6-5k	0.595	0.005	1.000	1.000	1.000	0.051	1.000	1.000				
4-3k	0.855	0.007	1.000	1.000	1.000	0.098	1.000	1.000	1.000			
2-1k	0.999	0.098	1.000	1.000	0.998	0.631	1.000	0.910	0.879	0.973		
1k-200	1.000	0.163	1.000	1.000	0.989	0.782	1.000	0.777	0.762	0.885	1.000	
200-pres	0.333	0.000	1.000	1.000	1.000	0.004	0.997	1.000	1.000	0.999	0.004	0.002
							Significant p≤0.100			Significant p≤0.050		

**Table S11:** Southern Europe Body Mass Male significant differences - Hochberg GT2 Post-Hoc Test

	45-30k	30-20k	15-11k	11-10k	10-9k	9-8k	8-7k	7-6k	6-5k	4-3k	2-1k	1k-200	200-pres
45-30k													
30-20k	1.000												
15-11k	1.000	0.798											
11-10k	1.000	0.931	1.000										
10-9k	1.000	1.000	1.000	1.000									
9-8k	1.000	0.997	1.000	1.000	1.000								
8-7k	0.972	0.022	0.921	0.993	0.010	1.000							
7-6k	0.709	0.004	0.309	0.629	0.001	1.000	1.000						
6-5k	0.860	0.008	0.553	0.858	0.002	1.000	1.000	1.000					
4-3k	1.000	0.223	1.000	1.000	0.460	1.000	0.999	0.535	0.830				
2-1k	1.000	0.315	1.000	1.000	0.600	1.000	0.564	0.073	0.156	1.000			
1k-200	1.000	0.994	1.000	1.000	1.000	1.000	0.000	0.000	0.000	0.050	0.010		
200-pres	0.970	0.017	0.835	0.987	0.003	1.000	1.000	1.000	1.000	0.980	0.107	0.000	
										Significant p≤0.100		Significant p≤0.050	

**Table S12:** Southern Europe Body Mass Female significant differences - Hochberg GT2 Post-Hoc Tests

	30-20k	20-15k	15-11k	11-10k	10-9k	8-7k	7-6k	6-5k	4-3k	2-1k	1k-200	200-pres
30-20k												
20-15k	1.000											
15-11k	1.000	1.000										
11-10k	1.000	1.000	1.000									
10-9k	1.000	0.991	0.954	0.915								
8-7k	0.123	1.000	1.000	0.999	0.020							
7-6k	0.014	1.000	0.996	0.878	0.002	1.000						
6-5k	0.016	1.000	0.986	0.820	0.002	1.000	1.000					
4-3k	0.044	1.000	1.000	0.996	0.006	1.000	1.000	1.000				
2-1k	0.249	1.000	1.000	1.000	0.039	1.000	0.846	0.892	0.999			
1k-200	0.694	1.000	1.000	1.000	0.166	0.992	0.188	0.343	0.503	1.000		
200-pres	0.004	1.000	0.974	0.645	0.001	1.000	1.000	1.000	1.000	0.118	0.004	
										Significant p≤0.100		Significant p≤0.050

**Table S13:** Central Europe Stature Male significant differences - Hochberg GT2 Post-Hoc Tests

	45-30k	15-11k	8-7k	6-5k	5-4k	4-3k	3-2k	2-1k	1k-200	200-pres
45-30k										
15-11k	1.000									
8-7k	0.019	1.000								
6-5k	1.000	1.000	0.860							
5-4k	1.000	1.000	0.001	1.000						
4-3k	1.000	1.000	0.011	1.000	0.998					
3-2k	0.992	1.000	0.072	1.000	0.743	1.000				
2-1k	1.000	1.000	0.012	1.000	0.979	1.000	1.000			
1k-200	1.000	1.000	0.000	1.000	1.000	0.808	0.285	0.570		
200-pres	1.000	0.993	0.000	0.999	0.997	0.373	0.115	0.267	1.000	
						Significant $p \leq 0.100$		Significant $p \leq 0.050$		

**Table S14:** Central Europe Stature Female significant differences - Hochberg GT2 Post-Hoc Tests

	45-30k	8-7k	7-6k	5-4k	4-3k	3-2k	2-1k	1k-200	200-pres
45-30k									
8-7k	0.960								
7-6k	1.000	1.000							
5-4k	1.000	0.485	1.000						
4-3k	1.000	0.420	1.000	1.000					
3-2k	1.000	0.995	1.000	1.000	1.000				
2-1k	1.000	0.167	1.000	1.000	1.000	0.967			
1k-200	1.000	0.060	0.999	0.998	0.986	0.662	1.000		
200-pres	1.000	0.062	0.956	0.943	0.921	0.553	0.995	1.000	
						Significant $p \leq 0.100$		Significant $p \leq 0.050$	

**Table S15:** Central Europe Body Mass Male significant differences - Hochberg GT2 Post-Hoc Tests

	45-30k	15-11k	8-7k	6-5k	5-4k	4-3k	3-2k	2-1k	1k-200	200-pres
45-30k										
15-11k	1.000									
8-7k	1.000	1.000								
6-5k	1.000	1.000	1.000							
5-4k	1.000	1.000	0.814	0.998						
4-3k	1.000	1.000	1.000	1.000	0.781					
3-2k	1.000	1.000	0.327	0.915	1.000	0.088				
2-1k	1.000	1.000	0.329	0.932	1.000	0.025	1.000			
1k-200	1.000	1.000	0.518	0.977	1.000	0.150	1.000	1.000		
200-pres	1.000	1.000	0.991	1.000	1.000	1.000	1.000	1.000	1.000	
						Significant $p \leq 0.100$		Significant $p \leq 0.050$		

**Table S16:** Southern Europe Body Mass Female significant differences - Hochberg GT2 Post-Hoc Tests

	45-30k	8-7k	7-6k	5-4k	4-3k	3-2k	2-1k	1k-200	200-pres
45-30k									
8-7k	0.424								
7-6k	1.000	0.999							
5-4k	0.888	0.998	1.000						
4-3k	0.405	1.000	1.000	0.955					
3-2k	0.994	0.961	1.000	1.000	0.823				
2-1k	0.986	0.856	1.000	1.000	0.075	1.000			
1k-200	1.000	0.365	1.000	0.704	0.001	1.000	1.000		
200-pres	1.000	0.990	1.000	1.000	0.993	1.000	1.000	1.000	
						Significant $p \leq 0.100$		Significant $p \leq 0.050$	

**Table S17:** Northern Europe Stature Male significant differences - Hochberg GT2 Post-Hoc Tests

	8-7k	7-6k	6-5k	5-4k	4-3k	3-2k	2-1k	1k-200	200-pres
8-7k									
7-6k	1.000								
6-5k	0.646	0.810							
5-4k	0.143	0.019	0.999						
4-3k	0.000	0.000	0.001	0.003					
3-2k	0.338	0.231	1.000	1.000	0.002				
2-1k	0.004	0.000	0.008	0.045	0.188	0.032			
1k-200	0.009	0.000	0.028	0.153	0.071	0.106	1.000		
200-pres	0.030	0.001	0.469	0.996	0.046	0.887	0.999	1.000	
				Significant $p \leq 0.100$			Significant $p \leq 0.050$		

**Table S18:** Northern Europe Stature Female significant differences - Hochberg GT2 Post-Hoc Tests

	8-7k	7-6k	6-5k	5-4k	4-3k	3-2k	2-1k	1k-200	200-pres
8-7k									
7-6k	1.000								
6-5k	1.000	1.000							
5-4k	1.000	1.000	1.000						
4-3k	0.694	0.724	0.996	0.783					
3-2k	0.996	0.999	1.000	1.000	0.999				
2-1k	0.561	0.361	0.979	0.047	1.000	0.965			
1k-200	0.978	0.976	1.000	0.881	0.999	1.000	0.587		
200-pres	0.999	1.000	1.000	1.000	0.998	1.000	0.975	1.000	
				Significant $p \leq 0.100$			Significant $p \leq 0.050$		

**Table S19:** Northern Europe Body Mass Male significant differences - Hochberg GT2 Post-Hoc Tests

	8-7k	7-6k	6-5k	5-4k	4-3k	3-2k	2-1k	1k-200	200-pres
8-7k									
7-6k	1.000								
6-5k	1.000	1.000							
5-4k	1.000	1.000	1.000						
4-3k	0.460	0.637	0.196	0.116					
3-2k	0.998	1.000	0.919	0.548	0.941				
2-1k	0.715	0.677	0.014	0.000	1.000	0.989			
1k-200	0.944	0.988	0.112	0.001	0.988	1.000	0.998		
200-pres	0.999	1.000	0.957	0.590	0.869	1.000	0.817	1.000	
				Significant $p \leq 0.100$			Significant $p \leq 0.050$		

**Table S20:** Northern Europe Body Mass Female significant differences - Hochberg GT2 Post-Hoc Tests

	8-7k	7-6k	6-5k	5-4k	4-3k	3-2k	2-1k	1k-200	200-pres
8-7k									
7-6k	0.855								
6-5k	1.000	0.781							
5-4k	1.000	0.128	1.000						
4-3k	1.000	0.996	1.000	1.000					
3-2k	1.000	0.431	1.000	1.000	1.000				
2-1k	1.000	0.999	0.999	0.081	1.000	0.718			
1k-200	1.000	0.203	1.000	1.000	1.000	1.000	0.024		
200-pres	1.000	0.906	1.000	0.998	1.000	1.000	1.000	1.000	
				Significant $p \leq 0.100$			Significant $p \leq 0.050$		

**Table S21: Nile Valley Stature Male significant differences - Hochberg GT2 Post-Hoc Tests**

	15-11k	7-6k	6-5k	5-4k	4-3k	3-2k
15-11k						
7-6k	1.000					
6-5k	0.741	1.000				
5-4k	1.000	1.000	0.695			
4-3k	0.967	0.896	0.020	1.000		
3-2k	0.993	1.000	1.000	0.978	0.531	
	Significant $p \leq 0.100$			Significant $p \leq 0.050$		

**Table S22: Nile Valley Stature Female significant differences - Hochberg GT2 Post-Hoc Tests**

	15-11k	7-6k	6-5k	4-3k	3-2k
15-11k					
7-6k	1.000				
6-5k	1.000	1.000			
4-3k	1.000	1.000	1.000		
3-2k	0.846	0.980	0.920	0.878	
	Significant $p \leq 0.100$			Significant $p \leq 0.050$	

**Table S23: Nile Valley Body Mass Male significant differences - Hochberg GT2 Post-Hoc Tests**

	15-11k	7-6k	6-5k	5-4k	4-3k	3-2k
15-11k						
7-6k	1.000					
6-5k	0.996	1.000				
5-4k	0.558	0.952	0.944			
4-3k	1.000	0.994	0.857	0.120		
3-2k	0.909	0.999	1.000	1.000	0.667	
	Significant $p \leq 0.100$			Significant $p \leq 0.050$		

**Table S24: Nile Valley Body Mass Female significant differences - Hochberg GT2 Post-Hoc Tests**

	7-6k	6-5k	4-3k	3-2k
7-6k				
6-5k	0.452			
4-3k	0.999	0.458		
3-2k	0.629	0.994	0.725	
	Significant $p \leq 0.100$		Significant $p \leq 0.050$	



**Table S25: South Asia Stature Male significant differences - Hochberg GT2 Post-Hoc Tests**

	11-10k	9-8k	7-6k	5-4k	4-3k	3-2k	1k-200	200-pre
11-10k								
9-8k	1.000							
7-6k	1.000	0.994						
5-4k	1.000	0.885	1.000					
4-3k	0.654	0.002	0.243	0.186				
3-2k	0.961	0.081	0.862	0.891	1.000			
1k-200	0.377	0.002	0.126	0.106	1.000	1.000		
200-pre	0.004	0.000	0.000	0.000	0.105	0.333	0.987	
			Significant p≤0.100			Significant p≤0.050		

**Table S26: South Asia Stature Female significant differences - Hochberg GT2 Post-Hoc Tests**

	11-10k	9-8k	7-6k	5-4k	4-3k	1k-200	200-pres
11-10k							
9-8k	1.000						
7-6k	1.000	1.000					
5-4k	1.000	1.000	1.000				
4-3k	1.000	0.997	1.000	1.000			
1k-200	0.988	0.890	0.996	1.000	1.000		
200-pres	0.494	0.109	0.593	0.709	0.239	0.983	
			Significant p≤0.100		Significant p≤0.050		

**Table S27: South Asia Body Mass Male significant differences - Hochberg GT2 Post-Hoc Tests**

	9-8k	5-4k	4-3k	3-2k	1k-200	200-present
9-8k						
5-4k	1.000					
4-3k	0.509	0.091				
3-2k	0.898	0.604	1.000			
1k-200	0.934	0.666	1.000	1.000		
200-present	0.080	0.001	0.962	0.932	0.743	
			Significant p≤0.100		Significant p≤0.050	

**Table S28: South Asia Body Mass Female significant differences - Hochberg GT2 Post-Hoc Tests**

	30-20k	15-11k	11-10k	10-9k	8-7k
30-20k					
5-4k	0.200				
4-3k	0.101	1.000			
1k-200	0.922	0.737	0.512		
200-present	0.014	0.994	0.868	0.064	
			Significant p≤0.100		Significant p≤0.050

**Table S29: China Stature Male significant differences - Hochberg GT2 Post-Hoc Tests**

	8-7k	7-6k	6-5k	5-4k	4-3k	3-2k	2-1k	1k-200	200-pres
8-7k									
7-6k	1.000								
6-5k	1.000	1.000							
5-4k	0.375	0.794	0.979						
4-3k	1.000	1.000	1.000	0.230					
3-2k	1.000	1.000	1.000	0.397	1.000				
2-1k	1.000	1.000	1.000	0.857	0.979	1.000			
1k-200	0.986	1.000	1.000	0.928	0.885	0.989	1.000		
200-pres	0.997	1.000	1.000	0.937	0.940	0.998	1.000	1.000	
				Significant p≤0.100			Significant p≤0.050		

**Table S30: China Stature Female significant differences - Hochberg GT2 Post-Hoc Tests**

	8-7k	6-5k	4-3k	3-2k	2-1k	1k-200
8-7k						
6-5k	1.000					
4-3k	0.999	1.000				
3-2k	0.362	1.000	0.990			
2-1k	0.398	1.000	0.998	1.000		
1k-200	0.000	0.523	0.012	0.164	0.021	
	Significant p≤0.100			Significant p≤0.050		

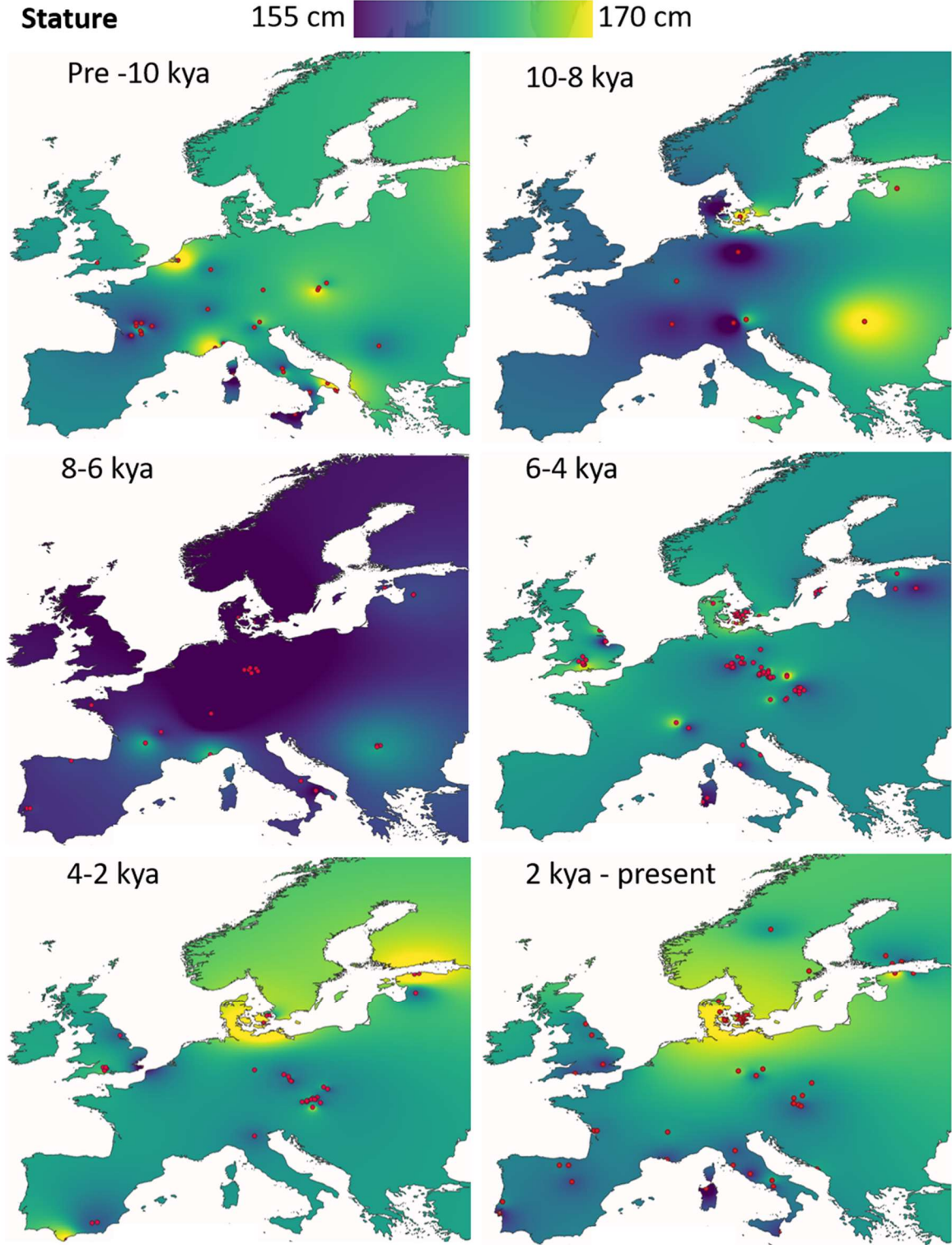
**Table S31: China Body Mass Male significant differences - Hochberg GT2 Post-Hoc Tests**

	8-7k	7-6k	6-5k	5-4k	4-3k	3-2k	2-1k	1k-200	200-pres
8-7k									
7-6k	0.530								
6-5k	1.000	0.990							
5-4k	0.582	1.000	1.000						
4-3k	0.076	0.018	0.254	0.005					
3-2k	0.004	0.010	0.121	0.002	1.000				
2-1k	0.001	0.010	0.116	0.001	1.000	1.000			
1k-200	0.868	0.115	0.923	0.060	0.885	0.243	0.136		
200-pres	1.000	0.439	1.000	0.444	0.077	0.002	0.001	0.893	
				Significant p≤0.100			Significant p≤0.050		

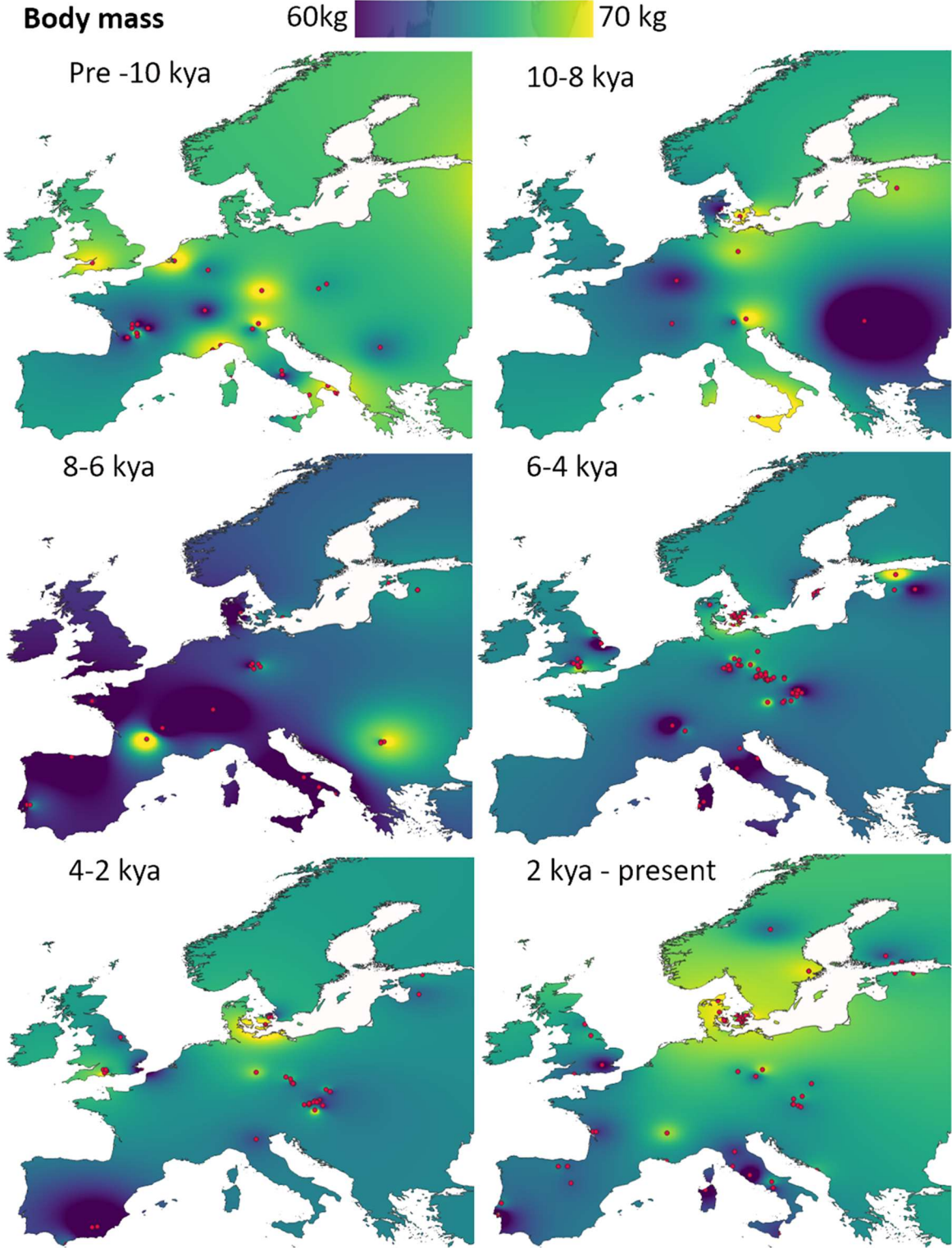
**Table S32: China Body Mass Female significant differences - Hochberg GT2 Post-Hoc Tests**

	8-7k	6-5k	4-3k	3-2k	2-1k	1k-200
8-7k						
6-5k	0.326					
4-3k	0.442	0.939				
3-2k	0.922	0.771	1.000			
2-1k	0.000	1.000	0.662	0.098		
1k-200	0.673	0.830	1.000	1.000	0.112	
	Significant p≤0.100			Significant p≤0.050		

**Figure 7:** Enlarged heatmap of spatio-temporal variation in stature throughout Holocene Europe. Red points denote site locations.



**Figure 8:** Enlarged heatmaps of spatio-temporal variation in body mass throughout Holocene Europe. Red points denote site locations.



**Figure S9:** Heatmaps for European female stature variation in 2kya temporal bands.

Stature

150 cm



160 cm

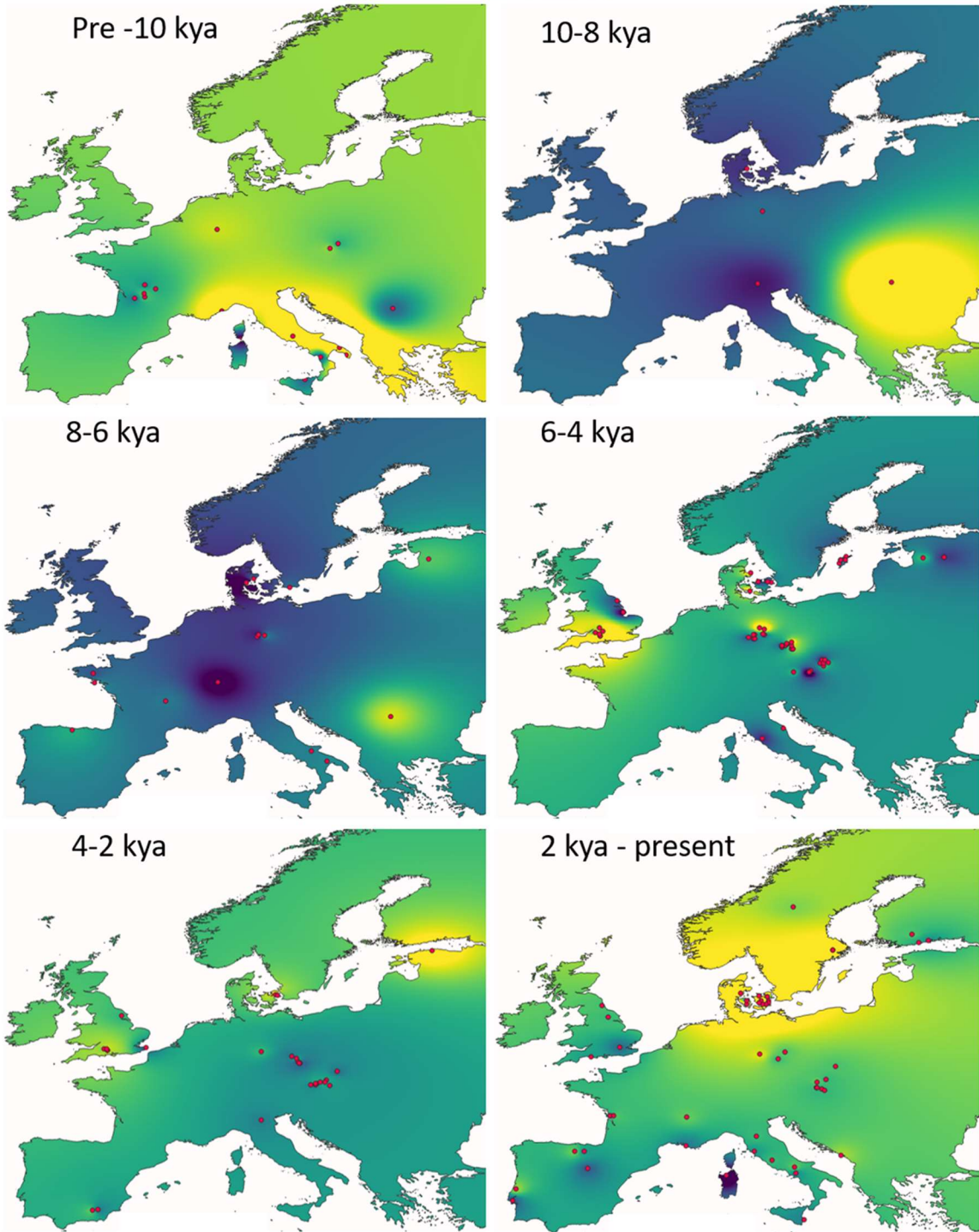


Figure S10: Heatmaps for European female body mass variation in 2kya temporal bands.

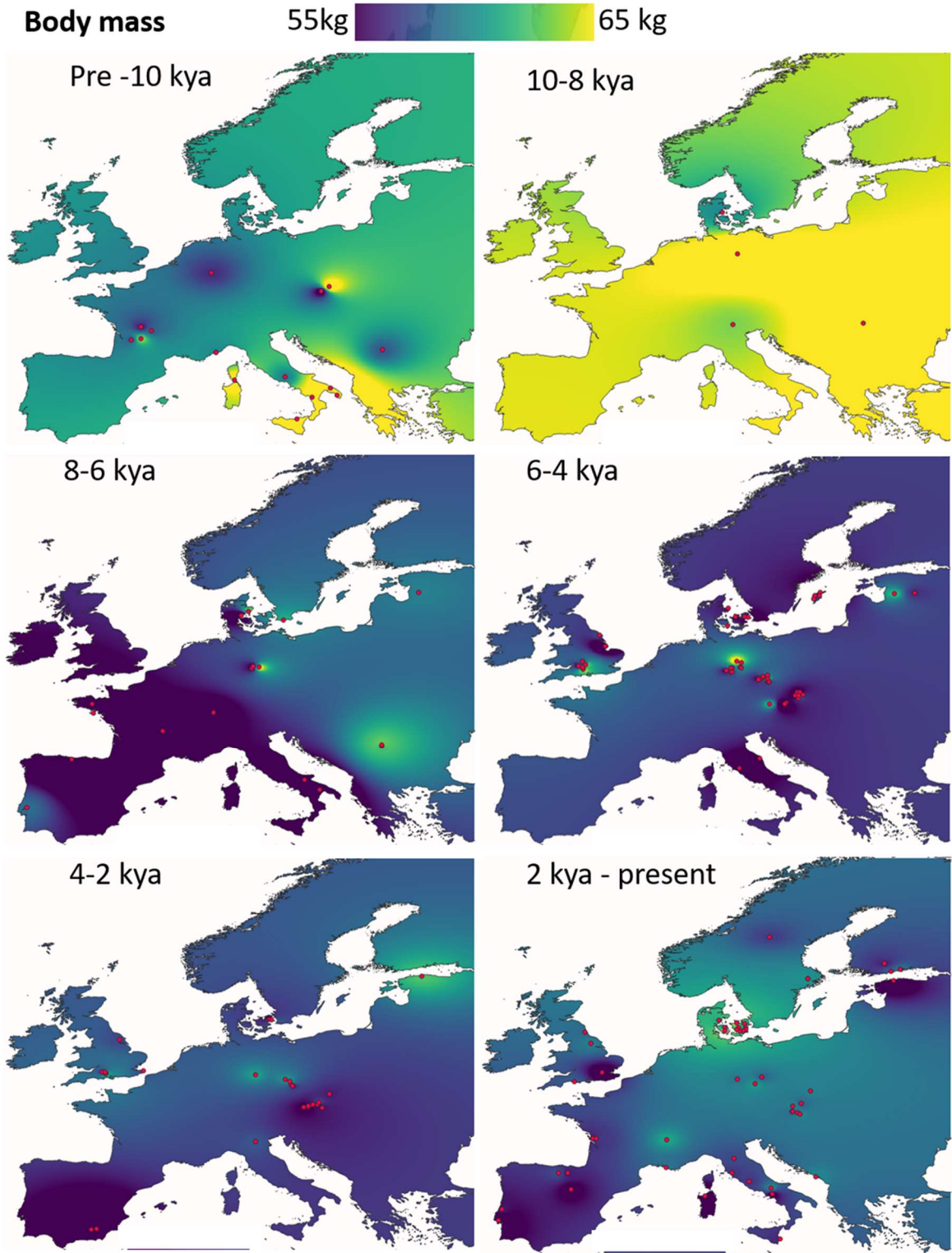


Figure S11: Heatmaps for European male stature variation in 2kya temporal bands.

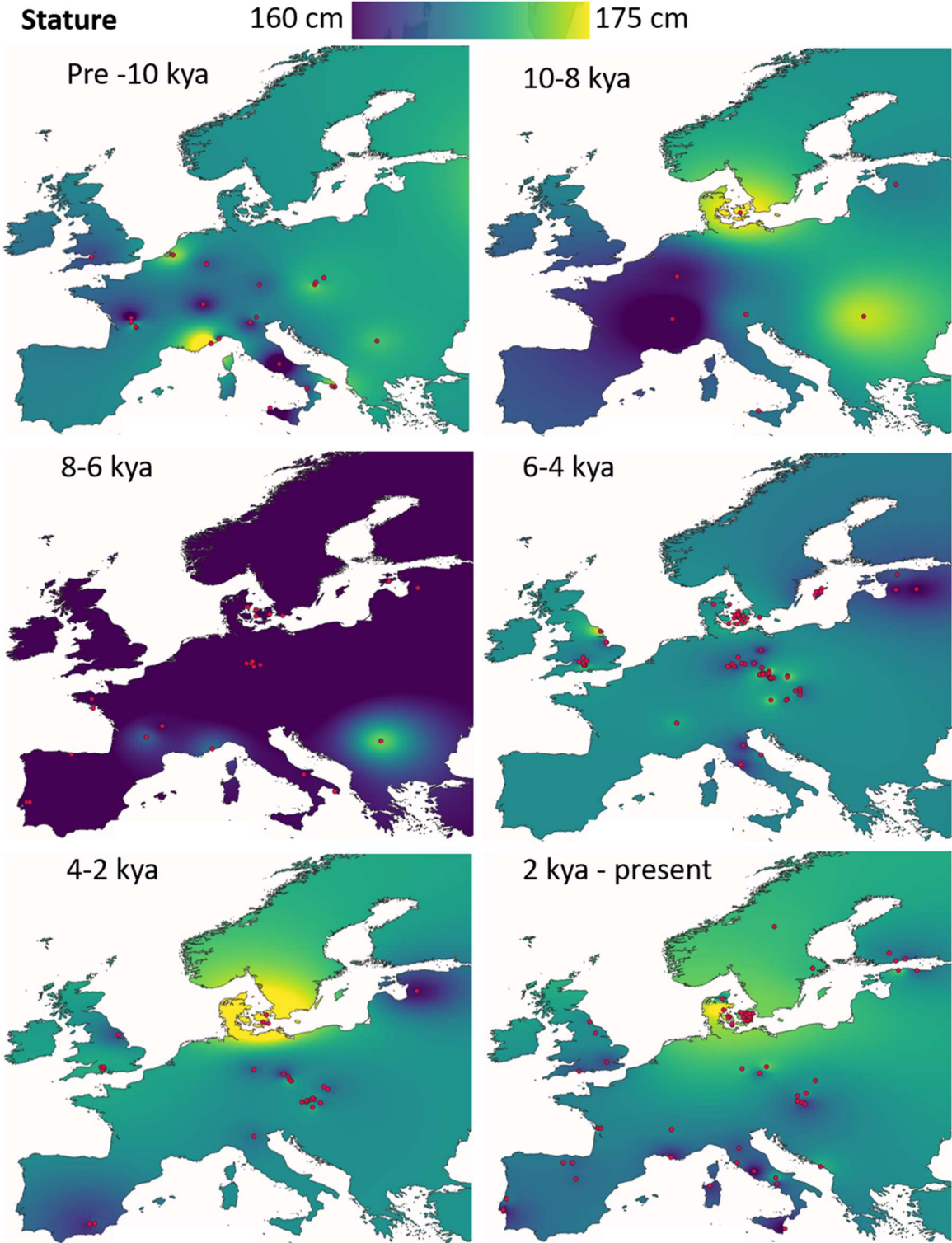
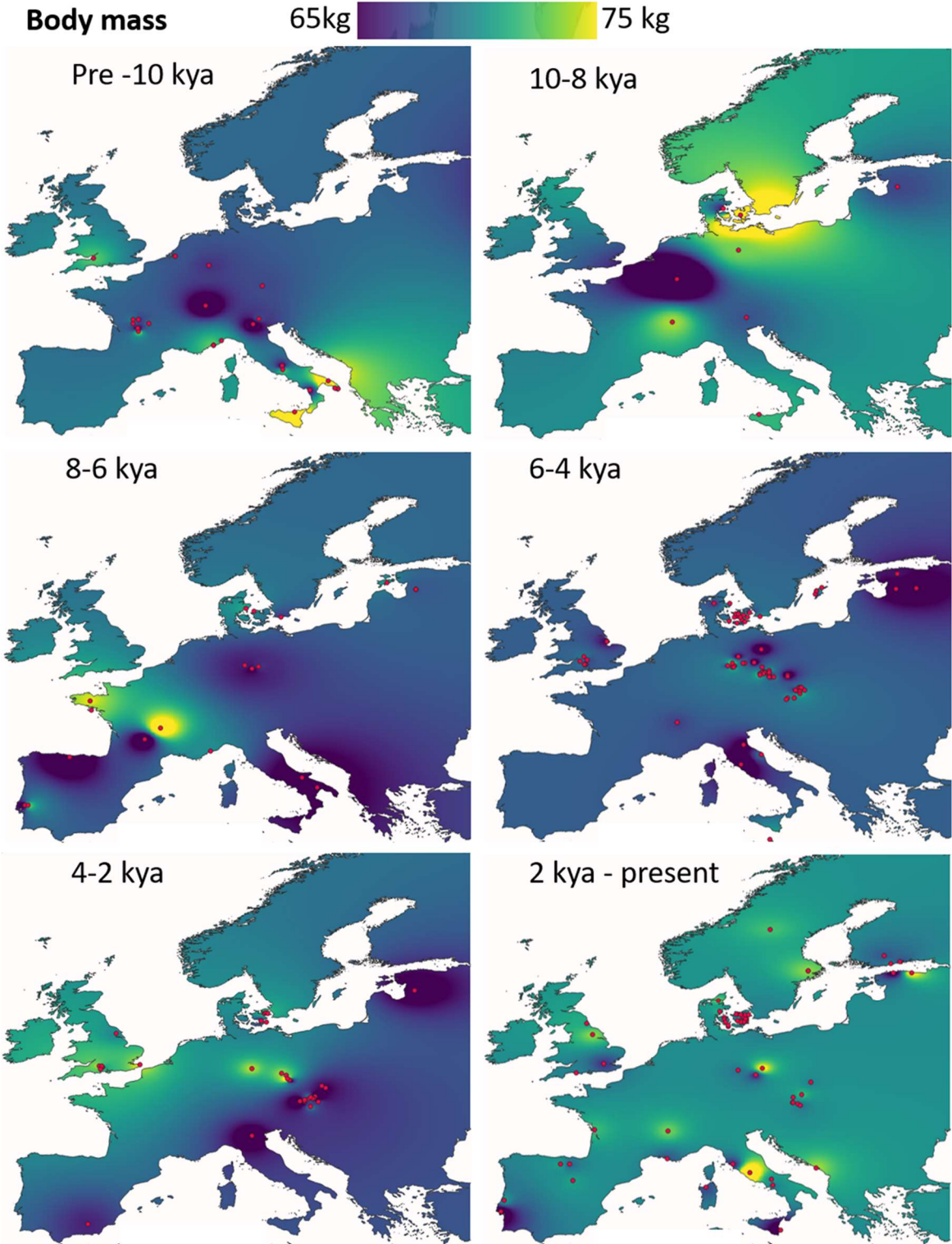


Figure S12: Heatmaps for European male body mass variation in 2kya temporal bands.





## Supplementary References

1. C. B. Ruff, *Skeletal Variation and Adaptation in Europeans: Upper Paleolithic to the Twentieth Century* (Wiley Blackwell, 2017) <https://doi.org/10.1002/9781118628430> (September 10, 2022).
2. C. B. Ruff, *et al.*, Gradual decline in mobility with the adoption of food production in Europe. *Proc. Natl. Acad. Sci.* **112**, 7147–7152 (2015).
3. J. T. Stock, *et al.*, *Body Size, Skeletal Biomechanics, Mobility and Habitual Activity from the Late Palaeolithic to the Mid-Dynastic Nile Valley* (2011) <https://doi.org/10.1002/9780470670170.ch14>.
4. E. Pomeroy, V. Mushrif-Tripathy, T. J. Cole, J. C. K. Wells, J. T. Stock, Ancient origins of low lean mass among South Asians and implications for modern type 2 diabetes susceptibility. *Sci. Rep.* **9** (2019).
5. L. Segurel, *et al.*, Why and when was lactase persistence selected for? Insights from Central Asian herders and ancient DNA. *PLOS Biol.* **18**, e3000742 (2020).
6. S. A. Tishkoff, *et al.*, Convergent adaptation of human lactase persistence in Africa and Europe. *Nat. Genet.* **2006 391 39**, 31–40 (2006).
7. A. Ranciaro, *et al.*, Genetic Origins of Lactase Persistence and the Spread of Pastoralism in Africa. *Am. J. Hum. Genet.* **94**, 496–510 (2014).
8. C. J. E. Ingram, *et al.*, A novel polymorphism associated with lactose tolerance in Africa: Multiple causes for lactase persistence? *Hum. Genet.* **120**, 779–788 (2007).
9. C. M. Schlebusch, P. Sjodin, P. Skoglund, M. Jakobsson, Stronger signal of recent selection for lactase persistence in Maasai than in Europeans. *Eur. J. Hum. Genet.* **2013 215 21**, 550–553 (2012).
10. M. Bleasdale, *et al.*, Ancient proteins provide evidence of dairy consumption in eastern Africa <https://doi.org/10.1038/s41467-020-20682-3>.
11. E. Priehodová, *et al.*, Sahelian pastoralism from the perspective of variants associated with lactase persistence. *Am. J. Phys. Anthropol.* **173**, 423–436 (2020).
12. B. J. Adams, J. E. Byrd, Interobserver Variation of Selected Postcranial Skeletal Measurements. *J. Forensic Sci.* **47**, 15550J (2002).
13. N. R. Langley, *et al.*, Error quantification of osteometric data in forensic anthropology. *Forensic Sci. Int.* **287**, 183–189 (2018).
14. S. Inskip, *et al.*, Evaluating macroscopic sex estimation methods using genetically sexed archaeological material: The medieval skeletal collection from St John’s Divinity School, Cambridge. *Am. J. Phys. Anthropol.* **168**, 340–351 (2019).
15. C. Malone, S. Stoddart, “Figurines of Malta” in *The Oxford Handbook of Prehistoric Figurines*, T. Insoll, Ed. (Oxford University Press, 2016), pp. 729–53.
16. E. W. Parkinson, J. T. Stock, “Physical activity and body size in Temple Period Malta: biomechanical analysis of commingled and fragmentary long bones” in *Temple People: Bioarchaeology, Resilience and Culture in Prehistoric Malta*, S. Stoddart, C. Malone, Eds. (McDonald Institute for Archaeological Research, 2022), pp. 183–94.
17. R. Power, *et al.*, “General pathology in the Circle: biocultural insights into population health, trauma and care in Neolithic Malta” in *Temple People: Bioarchaeology, Resilience and Culture in Prehistoric Malta*, S. Stoddart, C. Malone, Eds. (McDonald Institute for Archaeological Research, 2022), pp. 195–286.
18. R. McLaughlin, *et al.*, “An isotopic study of palaeodiet at the Circle and the Xemxija tombs” in *Temple People: Bioarchaeology, Resilience and Culture in Prehistoric Malta.*, S. Stoddart, C. Malone, Eds. (McDonald Institute for Archaeological Research, 2022), pp. 298–302.
19. C. D. Spiteri, *et al.*, Regional asynchronicity in dairy production and processing in early farming communities of the northern Mediterranean. *Proc. Natl. Acad. Sci. U. S. A.* **113**, 13594–13599 (2016).

20. R. McLaughlin, "Economy, environment and resources in prehistoric Malta" in *Temple Places: Excavating Cultural Sustainability in Prehistoric Malta*, C. Malone, E. Al., Eds. (McDonald Institute for Archaeological Research, 2020), pp. 281–308.
21. R Core Team, R: A language and environment for statistical computing (2021).
22. R Studio Team, RStudio: Integrated Development for R (2020).
23. H. Wickham, *ggplot2: Elegant Graphics for Data Analysis* (Springer-Verlag, 2016).
24. H. Wickham, D. Seidel, scales: Scale Functions for Visualization (2020).
25. E. J. Pebesma, R. S. Bivand, Classes and methods for spatial data in R (2005).
26. R. S. Bivand, T. Keitt, B. Rowlingson, rgdal: Bindings for the "Geospatial" Data Abstraction Library (2021).
27. R. J. Hijmans, raster: Geographic Data Analysis and Modeling (2020).
28. H. Wickham, R. François, L. Henry, K. Müller, dplyr: A Grammar of Data Manipulation (2021).
29. H. Akima, A. Gebhardt, akima: Interpolation of Irregularly and Regularly Spaced Data (2020).
30. M. Tennekes, tmap: Thematic Maps in R. *J. Stat. Softw.* **84**, 1–39 (2018).
31. S. Rochette, Response to Interpolation of geodata on surface of a sphere. (2017) (June 12, 2022).
32. QGIS.org, QGIS Geographic Information System (2022).
33. M. H. Raxter, *et al.*, Stature estimation in ancient Egyptians: A new technique based on anatomical reconstruction of stature. *Am. J. Phys. Anthropol.* **136**, 147–155 (2008).
34. C. B. Ruff, *et al.*, Stature and body mass estimation from skeletal remains in the European Holocene. *Am. J. Phys. Anthropol.* **148**, 601–617 (2012).
35. K. Zhang, *et al.*, Estimation of stature from radiographically determined lower limb bone length in modern Chinese. *J. Forensic Leg. Med.* **79**, 101779 (2021).
36. E. Pomeroy, *et al.*, Stature estimation equations for South Asian skeletons based on DXA scans of contemporary adults. *Am. J. Phys. Anthropol.* **167** (2018).
37. C. B. Ruff, M. L. Burgess, N. Squires, J. A. Junno, E. Trinkaus, Lower limb articular scaling and body mass estimation in Pliocene and Pleistocene hominins. *J. Hum. Evol.* **115**, 85–111 (2018).
38. E. Pomeroy, *et al.*, Estimating body mass and composition from proximal femur dimensions using dual energy x-ray absorptiometry. *Archaeol. Anthropol. Sci.* **11** (2019).