

Supporting Text S1: Neolithic data

Table S1 contains information for 765 Neolithic sites: Lat/Long, radiocarbon date & additional archaeological information (rows 40 to 804).

In Table S1 the locations of all 35 centres used (25 HOAs and 10 POAs) are given (rows 5 to 39).

Also given in Table S1 are the locations of two additional points used: point A/S (on the Anatolian/Syrian border), and point S/F (on the Spanish/French border) (rows 3 and 4).

The main entries in Table S1 are:

- Column J ("Uncal C14 BP") gives the earliest uncalibrated radiocarbon date for Early Neolithic context.
- Column L ("CAL C14 BP") is the calibrated date using Oxcal 2004 software (www.oxcal.de).
- Columns Q ("HOA1") to AY ("Ali Kosh") give **shortest-path** distances (in km) to the corresponding centre.
- Columns AZ ("GHOA1") to CH ("GAli Kosh") give **great-circle** distances (in km) to the corresponding centre.

Shortest-path distances (columns Q to AY) have been computed as explained in Supporting Text S2, specially Fig S1:

- Sites in Arabia, Near East, Anatolia and Asia (as stated in column E): great-circle distance to each centre.
- European non-Iberian sites ("Europe" in column E): great-circle distance from the site to the A/S point, plus great-circle distance from this point to each centre (see e.g. the green line in Fig S1).
- Iberian sites ("Iberia" in column E): great-circle distance from the site to the S/F point, plus great-circle from this point to the A/S point, plus great-circle from this point to each centre (see e.g. the red line in Fig S1).

Notes:

1. Columns S, T, AM, AN & AO (Egyptian centres: HOA3, HOA4, HOA23, HOA24 & HOA25): distances have been computed as explained above, but relative to a point on the Egypt/Israel border (Lat=31°, Long=34.5°), and the great-circle distance from this point to the HOA has been added.

2. Columns R, U, AA, AF; AP & AV (HOA 2, HOA 5, HOA11, HOA16; POAs Çatal Höyük and Cayönü in Anatolia): distances have been computed as explained above, but relative to the Dardanelles (Lat=41°, Long=29°), and the great-circle distance from the Dardanelles to the centre has been added.

The following table is included as an attempt to further clarify the shortest-distance computation approach used. It is exactly the same as Table 2 in the paper, but using colour codes for the criteria used to compute short distances (according to the location of HOAs).

Table 2. Correlation coefficients R for hypothetical origin of agriculture (HOA) centres (see Fig. 3) using uncalibrated radiocarbon dates (N = 757 sites) using great-circle (top) and shortest-path distances (bottom). Bold characters are used for the two highest R values for each method.

great-circle R	Long = 30°	Long = 35°	Long = 40°	Long = 45°	Long = 50°	Long = 55°	Long = 60°
shortest-path R							
Lat = 40°	0.637 0.672	0.744 0.743	0.778 0.812	0.772 0.792			
Lat = 35°	* *	0.808 0.812	0.815 0.816	0.795 0.804	0.764 0.781	0.730 0.756	
Lat = 30°	0.797 0.809	0.818 0.807	0.815 0.807	0.791 0.789	0.756 0.761	0.721 0.734	
Lat = 25°	0.807 0.809	0.814 0.809	0.802 0.787	0.775 0.766	0.739 0.737		
Lat = 20°	0.805 0.809	0.802 0.809	0.785 0.766	0.759 0.746	0.730 0.722		

* This centre is in the Mediterranean Sea, far away from the mainland.

Shortest-path distances (lower entries) have been computed as follows:

Red:

- Non-Iberian European sites: via the Anatolia/Syria point (Lat=36.75°, Long=36.1°) [see Supp. Text S2, green line in Fig S1].
- Anatolian & Near Eastern sites: shortest path equal to great circle.

Blue:

- Non-Iberian sites west of the Dardanelles: via the Dardanelles point (Lat=41°, Long=29°).
- Anatolian & Near Eastern sites: shortest path equal to great circle.

Green:

- Anatolian & Near Eastern sites: via the Sinai point (Lat=31°, Long=34.5°).
- Non-Iberian European sites: via the Anatolia/Syria point and the Sinai point.

Note: In all cases, for Iberian sites shortest paths go through the Spain/France point (Lat=42.4, Long=3.25°) [see Supp. Text S2, red line in Fig S1].