

Principal Investigators: Prof. Dr. Andreas Zimmermann, Prof. Dr. Silviene Scharl | Institute of Prehistoric Archaeology

Funded by the German Research Foundation

Demographic studies are rarely concerned with prehistoric population developments. This is likely due to the difficult data situation. However, for this section of human history in particular, demographic factors are essential in modelling: the spread of anatomically modern humans, the appearance and disappearance of cultures and new economic spheres can only be explained against the background of

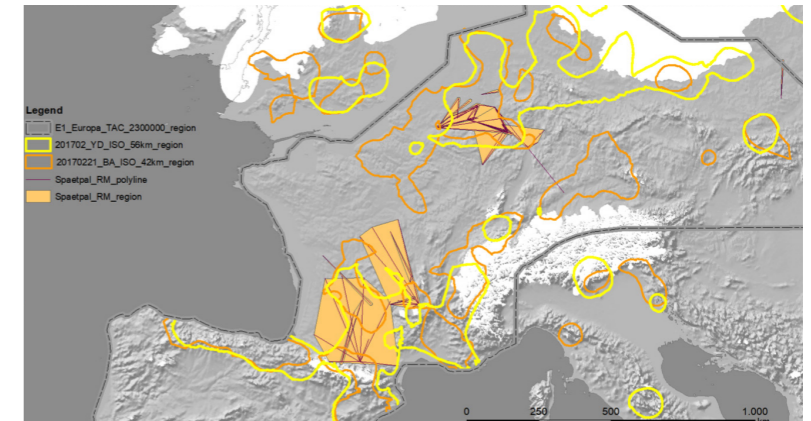
population dynamics. The project E1, CRC 806 “Our Way to Europe”, has been investigating demographic processes among glacial hunters and gatherers since 2009. Thus, in conjunction with data on the Neolithic in the Rhineland (project LUCIFS, University of Cologne), an overview of the population development in Europe over the last 40,000 years has been compiled.

First, populated core areas were modelled using densi-

ty-based site distributions. The population densities were estimated using a protocol developed at the Cologne Institute of Prehistoric Archaeology. Consistency in data collection, modelling and computation enables for the first time the use of estimations both synchronous and diachronic for the reconstruction of small and large-scale population dynamics.

One of the most important findings of the investigations is the extremely low population density estimate for hunters and gatherers during the European Palaeolithic. At 0.13 persons per 100 km², it was considerably less populated than Germany is today (about 200 persons per km²). Such low population densities could only have been viable under an adapted socio-spatial organization. With the onset of food-producing economies (“Neolithic Revolution”), there was the first significant increase in the population. The two major transformations that followed occurred with the emergence of state level societies and with the use of new energy sources, as postulated by Gordon Childe about 80 years ago.

A diachronic comparison of the new high-resolution data indicates repeated migration of regional populations. Examinations of old DNA from human fossils indicate the extinction of lineages. Uninhabited areas that cannot be explained on the basis of environmental conditions or conservation biases raise further questions. How can the



observed discrepancies between climate modelling and archaeological data be explained? To what extent were the environmental or social and cultural factors crucial to the spread and survival of our ancestors?

So far, one can observe a dominance of environmental deterministic models. The new research confirms one thing quite clearly: although climate fluctuations played a role, the great demographic changes of our ancestors were caused by cultural factors.

Text: Isabell Schmidt, Andreas Zimmermann

Researcher: Dr. Isabell Schmidt
Website: www.sfb806.de
Contact: Dr. Isabell Schmidt, isabell.schmidt@uni-koeln.de