

Neolithic Cultural Dissemination in Europe: The inter-relations of climate change, vegetation and geology

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Neolithic culture was initiated in the Near East during a period of warm and humid climatic conditions which favoured the development of *graminae* grain plants in the steppe areas. The hunter-gatherer culture rapidly changed into an agricultural society thanks to a number of key technological advances such as polished stone axes to cut trees, cultivation of proto-wheat and leguminous crops, domestication of sheep and goats and the invention of pottery. These technological advances were fundamental to the development of stable communities which were very productive.

Climate change (dry and warmer conditions) shortly after the formation of these societies forced them to move from grasslands to more rainy conditions to the north where the local vegetation was of the forest type. The colonization of forest soils to grow prairie crops necessitated new techniques of farming such as burning forests, crop rotation and systematic grazing periods. It was possible by using the new agricultural methods to extend the agricultural pattern into Europe into areas where the bedrock permitted the development of more basic pH soils, mainly on sedimentary rocks which when corrected or the unfavourable chemistry of forest soils could be corrected to favour prairie type plants such as wheat.

The introduction of Neolithic methods of production advanced to the north and west from the Near Eastern origins at the average rate of about 1 km per year overall. The methods of adapting to the new conditions affecting agricultural production became solidly implanted and persevered until the latter half of the 20th century.