

# **Changes in the Environment and Civilizations in Turkey and Syria**

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# PREFACE

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The aim of this study was to investigate the relationship between the environmental record and the rise and fall of civilizations in Turkey and Syria. In order to achieve this goal we took sediment samples from lakes, marshes, and archaeological sites in Turkey and Syria by mechanical drilling. Micro fossils found in the sediments, such as pollen and diatoms as well as floral and faunal remains, were analyzed. Radio-carbon dating, ESR dating, and oxygen isotope analysis of quartz were employed. Also, scientific analyses were made of various inorganic and organic materials such as calcium carbonate, gypsum, and fatty acid. These scientific analyses were combined with geomorphological studies around the sampling area and the archaeological sites. Our research project was an epoch-making one as it was the first attempt of such an integrated scientific research in Turkey and Syria.

One of the most exciting results of the research project was that we were able to investigate the history of environmental changes on the Anatolian Plateau during the past several hundreds of thousands of years based on the analysis of sediments in a 60.85 meter long core taken from the Konya Basin. The results of analyses prove that the water level of lakes on the Anatolian Plateau rose during the Ice Age and dropped during the Interglacial. This contradicts the classic picture of the Ice Age in which lake water levels dropped because of a predominantly dry climate, and suggests a need for a new model of the Ice Age climate. Concerning the Holocene, the results of our study clearly suggest that there were periods of a cold, humid climate at 5000 BP and 3000 BP (uncalibrated  $^{14}\text{C}$  age), and a dry period between them at around 3800-3500 BP. Clearly, these environmental changes had significant effects on the rise and fall of civilizations in Turkey and Syria. Between 5000 BP and 3000 BP Turkey and Syria experienced a period of turmoil when various ethnic groups and kingdoms emerged and declined, one after another. The existence of cold, humid periods at 5000 BP and 3000 BP had been suggested before, but the existence of a dry period around 3800-3500 BP was documented for the first time in our study. We suggest that this dry period around 3800-3500 BP was closely related to the rise and fall of civilizations in Syria and of the Hittite Empire in the Anatolian Plateau. In addition, we obtained data for investigating the climatic changes in the historical era, namely for the warm period in the Middle Age.

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