

Fluctuations of Caspian Sea Level and Its Impacts on Distribution of Archaeological Sites in Southeastern Coasts (1st to 3rd Millennium BC)

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Introduction

Iranian northern plain is surrounded by the Caspian Sea in North and part of the Alborz Mountains in South. These two geomorphologically distinct features have created unique climatic conditions. A plain lush with abundant rainfall is result of the proximity of these two distinct geographical regions. As a consequence, the Iranian Northern plain has been in use by human populations since the prehistoric times.

The significance of coastal regions for human occupations has been documented all over the world. Abundance of food resources, access to the fresh water (rivers), and having clear landmarks have all made the coastal regions ideal geographical zones for human populations. In addition to that, proximity to the major water sources (big lakes, seas, and oceans) would regulate the climatic changes, and prohibits drastic alternations of the environment. Archaeological data have shown that coastal regions have also been used for human movements through prehistoric and historic times. Repeated exodus out of Africa is among such events.

Caspian Sea is the largest lake on the earth. Due to its closed drainage basin, Caspian Sea has experienced distinctive fluctuations over time. Paleoclimatic data have shown that the minimum water level of the Caspian Sea was -113 m and the maximum reached +50 m. During each fluctuation episode vast areas have been revealed and large land resources were r concealed.

Archaeological Research on the Southeastern Part of the Caspian Sea: The Southeastern areas of the Caspian Sea have witnessed archaeological research since the mid twenty century. Since the time, numerous archaeological surveys and excavations have been conducted at this region. The researches have provided clear understanding of the settlement patterns during many archaeological periods. Among such periods, Bronze Age (3rd millennium B.C. to 500 B.C.) has received the most attention by researchers. It has been proven that the Southeastern

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areas of the Caspian Sea hosted some of the most well-known Bronze Age archaeological sites of Iran. Among them, Gohar Tepe, Yarim Tepe, Shah Tepe, and Tepe Kellar have experienced several archaeological field missions to reveal tremendous amount of data concerning the socioeconomic structure of the people during the Bronze Age. What did really take place after this period is relatively unknown because the size and type of the archaeological settlements were drastically decreased. Some have claimed migrations to or out of the region and some have even proposed a clear change in the life style due to the apparent shift in the climatic conditions.

Climatic data indicates that during the Bronze Age, the Caspian Sea level was more or less stable in was -35 m. The sea level elevated only 1m during a 500 year period. This implies a stable climatic condition. Around 700 AD, the sea level dropped dramatically to -42 m and finally around 1300 AD the region witnessed the largest sea advancement (-22.5m).

There is no enough archaeological evidence prior to 1300 A.D. as ever reported from the immediate coastal regions and their adjacent areas at the Southeastern Caspian Sea. For years, many archaeologists interpreted this gap as an evidence of abounding the region because of some unknown causes.

Materials and Methods

After reviewing the Caspian Sea fluctuations, this paper attempts to reconstruct the coastline at the lowest and highest variability. The lines needed for this study were calculated using topographic maps and hydrographic basin of the Caspian Sea with the help of "National Center for Caspian Studies". After preparation of the GIS maps, the greatest regressions were marked on them. The maps indicate that the coastlines at the beginning of 3000 BC have been situated far behind the contemporary shore lines.

Conclusion

By combining the climatic and archaeological data, this research has shown that in contrast to the former claims concerning the absence of archaeological settlements at the Southeastern the Caspian Sea, majority of archaeological settlements have been buried under the sediments left by the periodic fluctuations of the Caspian Sea. Among these fluctuations, the 1300 A.D. advancement has had the most effective. The Purpose of this research is that all archaeological surveys at the mentioned region must take the sea fluctuations into account prior to the actual field work.

Keywords: *archaeological sites, Bronze Age, Caspian Sea, sea level fluctuations.*