



## **On paleogeography of the Kerch Strait during late Pleistocene-Holocene (new results)**

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The Kerch Strait between the Black Sea and the Sea of Azov is about 40 km long and 4-15 km wide. The relief of the strait's bottom is complex, with a large central trench (6-7 m deep), which is separated from adjacent marine areas and Taman Bay by underwater thresholds (2-3 m deep). The bedrock of the strait is formed from Miocene clays, which are capped with different loose Pleistocene formations. The bottom of the Kerch Strait is complicated by mud volcanism. The strait is an important strategic territory. Knowledge of its natural environment evolution is necessary for mining and engineering survey.

Based on the results of paleogeographic studies (lithology-facial, malacofaunistic, radiocarbon analyzes) of the four wells core drilled on Tuzla spit (island) in the course of engineering and exploration work during the construction of the Crimean bridge, the natural environment evolution scheme of the Kerch Strait for the past 25,000 years has been proposed, the stages are:

1) The New Euxinian regression, which corresponded to the Late Valday glacial period. The Azov Sea was a lowland, estuary of the river Don, situated in the area of the modern Black Sea shelf zone. In the Kerch Strait lived freshwater fauna.

2) The New Euxinian transgression, which corresponded to the beginning of the epoch of degradation of the Late Valday glaciation. The Kerch Strait was basin of the lagoon type with freshwater and slightly brackish molluscs. The presence of the latter indicates the discharge of the Caspian (Khvalynian) waters into the New Euxinian basin. The lagoon type basin in the area of the modern Kerch Strait existed about  $10110 \pm 330$  years ago.

3) The stage of The New Euxinian basin level decies as a result of discharge of its water to the Mediterranean Sea when it reached the the Bosphorus threshold. The extension of the Don delta, the settlement of freshwater molluscs.

4) The Black Sea transgression. In the fauna appeared the first Mediterranean-type species: from euryhaline to stenohaline. Unstable position of the sea level with its various fluctuations at the initial sub-stage of the Black Sea transgression development. The New Black Sea sub-stage with a sea level 2 m higher than the modern, increased salinity and rich biodiversity of Mediterranean species is determined as  $6020 \pm 140$  and  $5530 \pm 120$  years ago in the core.

5) The Phanagorian regression. The insignificant desalination of the Kerch Strait due to the increased influence of the river Don. The age of the event is  $2570 \pm 140$  years.

6) The modern stage. Distribution of Mediterranean euryhaline and moderately stenohaline species.

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