

**CLIMATIC AND ECOLOGICAL CHANGES IN THE BLACK SEA REGION DURING THE PERIOD
11000 – 7500 CALENDAR YEARS BP**

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The aim of this report is to investigate the changes in the vegetation of the Black Sea region and ecological conditions in the Black Sea basin as an answer to climatic changes during the period 11000-7500 calendar years BP. All conventional ¹⁴C years are converted in calendar years BP due to proved and importantly necessary of calibration of radiocarbon years in calendar years.

The periodicity of 2500 years with standard deviation of 500 years highly corresponds and can be used for interpretation of the changes in climatic and ecological events for the west Black Sea region and Black Sea basin after the Last Glacial maximum.

The climatic change about 11000 calendar years ago finds clear reflection in pollen spectra of the sediments of west shelf and deepwater part of the Black Sea and marks the boundary Pleistocene/Holocene. The conversion of the Black Sea lake in saltwater basin not dictated by climatic change on the boundary Pleistocene/Holocene and not completed gradually. The change of palaeoecological conditions of the basin happened about 7500 calendar years ago on the boundary Lower Holocene/Middle Holocene and occurred abruptly. The reason of this was catastrophic intrusion of Mediterranean waters into the Black Sea through the Bosphorus strait.

Key words: Holocene, Black Sea, climatic changes, ecological changes, calibration

Stage	Shelf and upper most part of continental slope	Molluscan fauna	Salinity, ‰	Age, cal.yrs	Deep sea kettle
Holocene	Upper Holocene – HI ₃ (Djemetin)	Modiolus phaseolinus Mytilus galloprovincialis Cardium edule Abra ovata Pitar rudis Corbula mediteranea Divaricela divaricata Rissoa parva Cerithidium pusillum Triphora perversa и др.	18	0 3000	Upper Holocene – HI ₃ Cocculithic ooze (continuous sedimentation)
	Middle Holocene – HI ₂ (Kalamit-Vitiaz)	Mytilus galloprovincialis Cardium edule Abra ovata Corbula mediteranea Rissoa parva Cerithidium pusillum и др.	15	3000 7500	Middle Holocene – HI ₂ Sapropel (continuous sedimentation)
	LITHOLOGICAL ABRUPT BOUNDARY (proving the change of ecological conditions in the Black sea basin)				
	Lower Holocene – HI ₁ (Bugaz) (absence in vast shelf zones - regression)	Dreissena polymorpha Monodacna caspia Turricaspia lineta Clessiniola variabilis Abra ovata Cardium edule и др.	11	7500 11000	Lower Holocene – HI ₁ Freshwater or brackish sediments (continuous sedimentation)
CLIMATIC BOUNDARY (perceivable and fixed by pollen analyses)					
Pleistocene	Neoeuxine – Ne	Dreissena polymorpha Monodacna caspia Dreissena rostriformis Theodoxus pallasi Turricaspia lineta и др.	10 3-8	11000 30000	Neoeuxine – Ne Freshwater or brackish sediments (continuous sedimentation)

