



Sedimentation on the SW Shelf of the Black Sea during the Late Pleistocene Holocene

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The Late Pleistocene-Holocene sedimentary deposits on the SW shelf areas of the Black Sea were studied on the basis of the analyses of gravity sediment cores and seismic profiles. Sedimentary strata deposited above a major shelf-crossing erosional surface, lying at about 100-120 m, include four biofacieses and two seismic units. Uncalibrated radiometric dates from sedimentary cores collected immediately above the erosional surface vary between 11.8 and 8.6 ky BP. Unit 1 overlies the erosional surface and includes a widespread thin mud drape and various irregular depositional features at about -80 to -100 m water depths. Unit 2 deposited at the shelf edge consists of a seaward prograding clinoforms, indicative of deposition during the lowstands. Four biofacieses identified within Unit 1 along the SW shelf area of the Black Sea span environmental changes from the termination of the New-Euxine lacustrine period to

the recent. BF1a and BF1b biofacieses represent conditions during the last 6 ky (uncalibrated). The difference between these biofacies is caused by the strong influence of Mediterranean bottom water at the Istanbul Strait and its reduction westward in the study area. BF1b has a limited distribution and deposited between 4.5 ky BP to present. BF1a reflects the influence of Mediterranean Lower layer. The spatial distributions of BF1b and BF1a suggest that this effect must have been stronger since the Mediterranean waters enter the basin or it has changed its pathway from inner shelf to present course. BF2 is a transitional facies and represents the beginning of marine conditions in the Black Sea, earlier than 8 ky BP (uncalibrated).

The Unit 1 and spatial and temporal distribution of its biofacieses from the SW shelf sediments suggest that the Black Sea level lower than the sill depth of the Bosphorus when the Mediterranean water inflowed into its latest lacustrine stage.