Geophysical Research Abstracts
Vol. 15, EGU2013-682, 2013
EGU General Assembly 2013

The Late Quaternary Seismic Stratigraphy of the Southern Shelf of the Strait of Istanbul (Sea of Marmara, Turkey)

Eren Deniz Abuş
Istanbul Technical University, Faculty of Mines, 80626 Maslak, Istanbul, Turkey (e.denizabus@gmail.com)

Eren Deniz Abuş (a), Cenk Yaltırak (a), Bedri Alpar (b), Hüseyin Tur (c)

(a)Istanbul Technical University, Faculty of Mines, 80626 Maslak, Istanbul, Turkey
(b)Institute of Marine Sciences and Management, University of İstanbul, Vefa, Istanbul 34470, Turkey
(c)Istanbul University Engineering Faculty, Geophysical Department, 34320 Avcilar, Istanbul, Turkey

The sea level changes in the northern shelf (Istanbul) of the Sea of Marmara and the sources of sedimentary packages at the southern exist of the Strait of Istanbul have been an ongoing debate the past decade. This study aims to enlighten both the sea level oscillations since $\sim$125 ky before present and the structure of aforesaid sedimentary sequence, Unit 2, near Kurbağalı River observed in high resolution sparker seismic sections using global sea level change curves. Contary to Hiscott et al. (2002), Gökaşan et al. (2005), and Eriş et al. (2007) preferring the global sea level change curve in Fairbanks (1989) so as to explain the age interval of the sequence, we introduced the curve in Bard et al. (1990) presented the 230Th – 234U ages of Acropora palmata samples collected from the offshore of the island of Barbados, where Fairbanks (1989) submits the first chronology using the limited 14C ages. Therefore, the deposition of the Unit 2 was considered as 10 – 9 ky before present by Hiscott et al. (2002), as 12 – 11$\pm$1.1 ky BP by Gökaşan et al. (2005), and as 6.4 – 3.2 ky BP by Eriş et al. (2007). Having applied this calibration to our study, the age interval of the Unit 2 was calculated as 11.5 ky before present. In previous studies, Unit 2 was presented as prograding deltaic deposits of the Kurbağalı River yet our studies illustrates that the stream current of Kurbağalı River is not capable of supporting adequate sediment input, which is about 1.5 x 8.5 kilometers when the thickness and rate of propagation of Unit 2 are considered. Thanks to high resolution seismic sections and bathymetry, we firstly introduce that the Unit 2 is a point-bar structure forming as a product of the meandering regime at the southern exit of the Bosphorus.