



Spatial effect on grain size parameters and variations along pure gravel beaches: A case study from the Gulf of Antalya, Turkey

Koray Koç, Erdal Koşun, and Ferdi Demirtaş

Akdeniz Üniversitesi, Mühendislik Fakültesi, Jeoloji Mühendisliği Bölümü, Antalya, 07058, Turkey
(koraykoc@akdeniz.edu.tr)

The Gulf of Antalya is located in the Turkey's southern coast with the Mediterranean Sea. There are many famous beaches along the Gulf of Antalya, but their sedimentological features are not well known. However, these beaches represent importance to understanding the hydrodynamic processes on the coastal regions of the Mediterranean Sea and sedimentary response to these processes.

In this study, we have chosed two famous beaches located to the northwest and northeast flanks of the Gulf of Antalya, the Konyaaltı and Lara, respectively. Although both the Konyaaltı and Lara beaches similar terrestrial conditions, i.e. climate and river energy, their grain size parameters represent dissimilarities. The Konyaaltı beach consists of almost completely gravel. In the other hand, the Lara beach is a mixed sand and gravel beach. To investigate the reasons of the disparities we have collected 100 samples from the backshore deposits. Their basic grain size characteristics within mean grain size, sorting, skewness and kurtosis calculations have been examined. According to the results while the mean grain size in the Konyaaltı beach vary from $-3,71 \varphi$ to $0,82 \varphi$, in the Lara beach it ranges between $-0,43 \varphi$ and $1,81 \varphi$. There is increasing in the grain size depend on eastward transportation in the Konyaaltı beach, however similar changes have not observed in the Lara beach. Sorting parameters that determined in the Konyaaltı and Lara beaches represent well sorted and mostly poorly sorted, respectively. It is considered that differences between two beaches caused by backshore lithology and topography, and sea waves coming angle and shelf structure.

Key words: Gulf of Antalya, pure gravel beach, grain size parameter, Turkey