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**Investigation of the Sea Level Rise and Its Impacts
on the Coastal Areas for Black Sea**

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ABSTRACT

Recent studies demonstrate that global sea level rise will accelerate in the 21st century. Therefore, the vulnerability of coastal ecosystems with rising sea level increases depending on the growing populations and development along the coasts.

Additionally, considering that regional scale, the variations in sea level differ from the global mean. For example, tectonic movements or rivers discharge increase the spatial variability of sea level rise. Accordingly, the Black Sea level changes have been studied by many researchers. The results, based on the data of both tide-gauges and satellite altimetry, have revealed mean sea level of the Black Sea is rising rapidly. The transgression has also continued for a long time in the Black Sea.

In this concept, a project is planned as to the monitoring of sea level for the Black Sea. This study outlines the aims and methods of this project.

The main objective of the project is related to the utilization of data obtained from GOCE and altimetry missions towards the modeling and improved understanding of the sea level, marine geoid and Sea Surface Topography (SST) in the Black Sea. Thus, the combination of gravity and altimetry data will enable to determine the changes and trend in the sea level.

Moreover, within this project, the possible impacts of sea level rise for the Black Sea coasts such as coastal erosion and risk of inundation will be investigated. In this sense, the project will contribute to determination of some strategies like coastal management planning, etc.

Keywords: Black Sea, GOCE, Altimetry, Sea level rise, Geoid, Sea Surface Topography

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