

The Impact of Sea Erosion on The Development of The Coastal Real Estate Market in The South Baltic Zone - Simulation of Changes*

Dariusz KLOSKOWSKI and Weronika Kosek

University of Technology in Koszalin, Koszalin, Poland

Correspondence should be addressed to: Dariusz KLOSKOWSKI, dariusz.kloskowski@tu.koszalin.pl

* Presented at the 44th IBIMA International Conference, 27-28 November 2024 Granada, Spain

Abstract

The article presents the contemporary problem of the coastal real estate market related to the influence of wind and waves on the shape of the coast from the geodetic side. The problem indicated is not new on a global scale, because the effects of climate warming are known, including the rise in sea levels. However, the influence of sea erosion on investments, including the development of the coastal market in the Polish South Baltic zone, is one of the few examples that can be seen in the literature. This topic became the inspiration for conducting research and analyses in the context of the influence of erosion on coastal areas, which are a pole of economic growth. The article, based on the collected archival data of the Maritime Institute in Gdańsk, presents a simulation of erosion-accumulation changes in geodetic selected locations of the Polish South Baltic coast. The presented erosion simulation is a prognostic element, presented in prediction cycles until 2110. The simulation of erosion changes was based on a cartographic database with a generated digital terrain model. Spatial interpolation tools were used to determine changes over time. The obtained directional trends of changes provide important conclusions that are particularly useful for spatial planning in coastal areas, including constituting an important direction of changes in the real estate market.

Keywords: coastal real estate market, marine erosion, GIS simulation.