

O22. SEDIMENT TRANSPORT NEAR THE VISTULA SPIT (BALTIC SEA)

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The Vistula Spit is a sandy elongated barrier form which borders the Vistula Lagoon from the Baltic Sea. The evolution of the spit as well as nowadays sediment transport along the marine shore of it are still under discussion, especially due to existing of entrance jetties bordered the Strait of Baltiysk, the single inlet to the Vistula Lagoon, and advanced up to 10 m depth seaward. Different hypothesizes about ether uniform transport from north to south or contrary directed fluxes with convergence at various points at the spit shore are discussed. Most of them are based on fact of accumulation of sandy material just to north from the northern entrance jetty as in incoming corner. Basing on statistics of near-surface wind, direct measurements of currents and analysis of direction of the scour hole located between jetties the paper confirms the existence of two opposite fluxes - one brings alluvium from the Vistula River mouth to north as main winds blow from south-west and west, and, in contrast, another one brings material obtained by erosion of the western shore of the Sambian Peninsula to south. Dynamic equilibrium between these fluxes¹ through hundreds of years resulted in formation of present shape of the coastline, and it is expected that the area of the equilibrium in alongshore migrations is in the top of the Yantarny-Baltiysk concave. Appearance of entrance jetties of the Vistula Lagoon inlet, in the area where opposite alongshore migration of material are nearly equalised, leded to the accretion-erosion pattern, which is pseudo equal to sediment transport from north to south.