P4. DYNAMICS OF THE NEARSHORE ZONE OF KALAMITSKIY GULF (BLACK SEA) UNDER INFLUENCE OF WIND WAVES

Vladimir Fomin¹, Konstantin Gurov¹, Vladimir Udovik¹, Sergey Konovalov¹

¹Marine Hydrophysical Institute of RAS, Russia
fomin.dntmm@gmail.com

Coastal zone dynamics is especially interesting for interdisciplinary researchers. This is due to general retreat of the coast of the Western Crimea and the fast response in the beach area. This justifies the need for monitoring of morphodynamic processes in the coastal zone of Crimea with the aim of qualitative and quantitative assessments of modern coastal transformation, as well as forecasts of possible changes. XBeach model has been used to simulate dynamics of waves and currents, sediment transport and changes in bottom topography, as well as the processes of drying and flooding of coastal areas. Erosion and sedimentation processes for the bottom sediments of the coastal zone of the Western Crimea have been numerically studied. The bottom profile has been reconstructed on the basis of bathymetric investigations in the coastal zone of the Western Crimea. Numerical simulations have been performed for various parameters of the bed composition and wind waves. Two fractions of bottom sediments have been considered for numerical experiments. The obtained results show that XBeach model can be successfully applied to simulate the bed profile evolution and changes in bottom sediment fractionation.