

Assessment of sediment dynamics of the Enguri River using modern methods

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This master's thesis is devoted to the study of sediment dynamics in the Enguri River and the analysis of traditional and modern methods used for its assessment. The initial part of the thesis discusses the historic development of the Enguri River, the geographical and physical characteristics of its basin, and the structure of its hydrographic network.

The study analyzes the main sources of sediment generation and their influence on the quantitative and qualitative characteristics of sediment. A significant part of the thesis is dedicated to the review of traditional and modern methods for hydrological data acquisition and processing. Particular emphasis is placed on remote sensing methods, which significantly enhance the spatial and temporal coverage, accuracy and operational efficiency of the obtained data.

The thesis processes long-term historical hydrological data of the Enguri River, including mean annual water level, discharge, and turbidity. Special attention is given to the ROX-type radar installed at the khaishi hydrological station on the Enguri River. with a derailed discussion of its operating principles, application possibilities, and practical significance for hydrological monitoring, continuous data acquisition, and analysis.