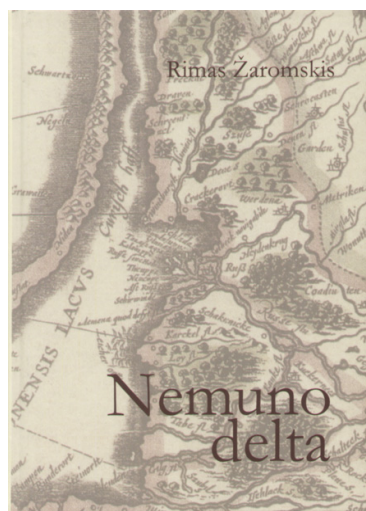




Monograph review



A Review of “The Nemunas Delta” Monograph Written by Rimās Žaromskis

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River deltas created by fluvial processes represent particular lithomorphologic relief complexes typical of many rivers with unique landscapes and economic importance. The world's major river deltas have been studied since ancient times: Herodotus comprehensively characterized the Nile delta in the 5th century B.C. Meanwhile, the eastern coast of the Baltic Sea, its tributaries and their mouths began to be investigated relatively recently, but some knowledge fragments of the eastern Baltic coast had been built during the 4th century B.C., and there were attempts to map it in the 2nd century (Claudius Ptolemy's map).

The Curonian Lagoon, an eastern Baltic bay and its tributaries generated interest in the ancient Viking period when the Nemunas River was a navigation way to the Black Sea. Since then the Nemunas Delta being of unique potamogenic origin attracted strong interest. The Nemunas River, as communication system, remained important as long as the beginning of the 20th century A.D., and this is reflected in numerous cartographic works: beginning from Caspar Hennenberger's map (1595) to the precise topographic maps of the Nemunas Delta and navigation maps of the Curonian Lagoon (beginning of the 20th century). By the mid-20th century the Nemunas Delta had been studied by German scientists mainly. It is not surprising: from the 14th century the delta area belonged to the Teutonic Order, then to the secular Prussia Duchy and later – to the united German Reich.

Lithuanian scientific research in the Nemunas Delta was launched only in the third decade of the 20th century. The investigations, being fairly detailed and fruitful, covered only a part of the delta. After the World War II, the situation changed essentially because the Nemunas Delta area fell under the jurisdiction of one state – the then Soviet Union. It would seem that the situation was a very favorable for integral research of the natural complex, but due to political or other motives it was carried out at a limited range. However, some summarized results of the research in the Lithuanian part of the Nemunas Delta part were published in a collective monograph “The Curonian Lagoon” (1959, in Russian), and later in a two-volume collective monograph “The Curonian Lagoon” (1978, in Lithuanian).

For this reason “The Nemunas Delta” by Rimās Žaromskis is a particularly significant monograph – since it has presented and summarized the long-term data of the researches done in the Nemunas Delta region. The monograph is notable for a complex analysis (natural – economic – social) of the unique area.

The monograph by Rimās Žaromskis consists of 11 extensive chapters presenting the knowledge accumulated by the first Nemunas Delta researchers, conditions of delta formation, classification of deltas and

characterization of their different parts. An important chapter of the monograph is “The Nemunas Delta Research History” spanning several periods associated with different goals of the delta research and use.

The author presents an in-depth analysis of contemporary developments of the Nemunas Delta and its hydrologic characteristics, as well as discusses water level changes, currents and streams, ice phenomena, and river flooding impacts on the delta development.

In his monograph Rimās Žaromskis gives a very thorough examination of bed processes in the delta branches: Rusnė, Gilija, Atmata, Skirvytė, Vytinė and Pakalnė. This chapter is richly illustrated by both the author-composed river bed cross-sections characterizing various branch channel sections and the ancient and modern topographic map patterns showing the changes in configuration of river beds, banks, and bottom relief forms (sandbars and pools).

“Dynamics of Delta Frontal Part”, a significant chapter of the monograph, contains a detailed and careful description of main regularities of float and drag sediments in the river channel and their accumulation in the delta front (avandelta). A comparative analysis of the southern (Gilija) and northern (Skirvytė and Atmata) delta segments is given in the monograph highlighting the influence of local conditions on the delta formation. The morphodynamic and lithodynamic processes in the avandelta are also consistently characterized.

A novel chapter of the monograph is “Anthropogenic Environmental Changes in the Delta”. The author untangles historical stages in the development of natural waterways starting from the 14th century. The hydrographic network reconstruction started in the 17th century, which was later followed by a wide agrarian use of the delta, plays an important role in the delta evolution. In this chapter much attention is devoted to the regulation of the Rusnė channel that is the main transport artery to Klaipėda.

At the end of the 19th century, the delta was shaped into a unique natural–economic system which focused on fishing, river transport, and agrarian economy. The 20th century saw essential political and economic changes determining nature-use of the delta. The monograph chapter titled “Transformations of the Nemunas Delta Nature-use in the 20th Century” analyzes economic conditions before and after the World War II. At the end of the 20th century, the Nemunas Delta was again divided between two states (Lithuania and Russia), which led to different environmental exploitation tendencies.

The monograph by Rimās Žaromskis ends with condensed summaries in Lithuanian and English. The English summary improves its value, as the monograph becomes partially available for foreign researchers. Moreover, all the illustrations in the monograph have English captions and explanations.

“The Nemunas Delta” monograph is abundantly illustrated by original figures, photos, antique geographical and contemporary topographical map patterns. The book is written in a lively suggestive language. The book focuses on hydrographic changes of the Nemunas River Delta, on a human role influencing these processes, stages of nature-use, and phases of the delta. All issues and problems discussed by Rimās Žaromskis in his monograph are noteworthy and relevant to hydrologists, geomorphologists, ecologists, hydraulic engineers and water management specialists. This book is recommended not only to researchers but also to students and the public.

The Nemunas River Delta area is unique. Its ecological importance in performing the role of a buffer between the Curonian Lagoon and the Nemunas catchment will ever increase. Let's hope that this study done by Rimās Žaromskis will not be the last one, and the researches to be carried out on it by him will be more than once summarized in scientific articles and books.