

8. Rate of recession of shoreline in the South-Eastern Baltic in different time scales

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The aim of the study was to compare the rate of recession of shoreline in the South-Eastern Baltic over a 100-year period (retrospective analysis, topographic maps of 1:25 000 scale of 1830–1835, 1834–1860 and 1908–1939, 2005 and 2015) with the current dynamics (2002–2017, land-based coastal monitoring).

The aim of the study was to compare the rate of recession of shoreline in the South-Eastern Baltic over a 100-year period (retrospective analysis) with the current dynamics (2002-2017, land-based coastal monitoring) using data available for Kaliningrad Oblast. A retrospective analysis was performed using topographic maps of 1:25 000 scale of 1830–1835, 1834–1860 and 1908–1939 editions, combined with a 2015 digital topographic map of a similar scale (RFBR # 18-05-01145). Coastal monitoring data were obtained within theme No. 0149-2019-0013

(State Assignment of AIORAS) as a result of annual leveling of coastal profiles at fixed locations.

For the entire Sambian Peninsula a weakening of the abrasion was revealed. On the northern shore, the secular retreat is of 0.2–0.8 m per year, and the retreat during last 15 years was of 0.1–0.4 m per year. In contrast, the retreat of shoreline on sandy spits increased during recent time: locally from 1.4 to 2.0 m per year for the Visula Spit shore, and from 0.7 to 1.5 m for the Curonian Spit shore. Few cases of change of the tendency (from retreat to advance) were found.

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