

## Structure and spatial distribution of landscapes of the littoral zone in the eastern part of Salmon Bay (Aniva Bay, the Sea of Okhotsk)

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Abstract

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**Abstract.** This study presents, for the first time, a comprehensive typological classification and mapping of the littoral landscapes in the eastern part of Salmon Bay (Aniva Bay, the Sea of Okhotsk, southern coast of Sakhalin Island), using methods of underwater landscape (bentema) typology developed for the Sea of Japan (according B.V. Preobrazhensky et al.). The research utilized data collected in the intertidal zone, which provided a representative sampling of relief forms, substrate types and skeletal content, as well as the state of the macrobenthos. Seven main types of bentema are described: metagest, skatebra, fractum, segetium, arenoid, peltium, and saxosium. For each landscape type, key morphological, granulometric, and biotic parameters are provided, as well as the main edificators and characteristic species. The study found that traces of organism activity (vestigial features) contribute to a more accurate determination of landscape boundaries. The results demonstrate the possibility of adapting the sublittoral bentema typology to the littoral zone and confirm its effectiveness for the recognition and structurally mapping of the dynamic coastal ecosystems. The classification system, which integrates physico-geographical and biotic parameters, can be used to monitor the state of coastal ecosystems and conduct comparative studies in coastal waters, as well as to objectively map the landscapes of the littoral.

### **Keywords:**

**underwater landscape, bentema, littoral zone, intertidal zone, bottom sediments, macrobenthos, Salmon Bay**

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