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ABSTRACT BOOK



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O17. MONITORING THE DYNAMICS OF THERMOABRASION COASTS AT KHARASAVEY AREA, WESTERN YAMAL (KARA SEA)

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The dynamics of thermoabrasion coasts on loose sediments under permafrost conditions are highly variable due to several factors: length of the dynamic period of the year, mechanic composition of the frozen ground and its ice content, hydrometeorological conditions, and human impact. Multiannual monitoring of the coastal zone was carried out by Lab. Geoecology of the North (Moscow State University) at the 22 km long Kharasavey deposit site, Western Coast of Yamal Peninsula (Kara Sea). The methods include direct measurements and observations (repeated topographic survey of shore transects from 1981 to 2012) along with remote sensing data analysis (images from 1964 to 2011). This allowed producing detailed characteristics of coastal dynamics. At the site, thermoabrasion coasts occupy the most part, and accumulative coasts are present in the north. Data on natural relief forming factors and ground composition are included in the detailed geomorphologic map of the site. Shore retreat rate shows correlation to amounts of wind-wave energy and to specific wind directions. Human impact on the coast includes dredging at the port channel, mining of sand, driving motor vehicles, and deposition of construction debris. Relations between shore retreat rate and aforementioned factors were studied, including dependencies on ice content, and shore segmentation was carried out. This allows for coastal dynamics forecasts in the region.