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The atmospheric conditions accompanying the occurrence of extremely high waves in the Baltic Sea (in particular, at the entrance to the Gulf of Bothnia) in 2004 and 2017 are analyzed. Changes in wave characteristics with a sharp decrease in the sea depth are considered. It is shown that the mechanisms like interference, when two wave systems overlap when rounding the island of Gotland, a superposition of a direct wave and a wave reflected from the steep slope at the entrance to the Gulf of Bothnia could contribute to the occurrence of extreme waves.

Keywords: Baltic Sea, extreme waves, satellite data, water vapor fields

Fig. 8. Ref. 19.