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Based on year 2020, the seasonal variability of wind wave frequency spectra in the Black and Azov Seas is studied. Eight points representing areas with different characteristics and wind wave regimes were selected for analysis. Frequency spectra for these points were obtained using the WAVEWATCH III model. To describe the variability of the spectra, 23 reference spectra were identified based on cluster analysis for further classification. The classes differed from each other in terms of the peak frequency and the value of the maximum spectral density. It was shown that in the Sea of Azov, spectra with low spectral density and peak frequencies above 0.2 Hz predominate. Even during the cold season, the peak frequency generally exceeds 0.15 Hz, and spectral density values rarely exceed 2 m²/Hz. In the Black Sea, the peak frequency exceeds 0.1 Hz in all seasons. Spectral density values exceeding 5 m²/Hz are primarily observed during the cold half of the year. Additionally, the classes repeatability depending on the direction of wave propagation across seasons was analyzed. It was shown that the dominant direction does not always coincide with the direction of wave propagation, whose spectra have the highest spectral density.

Keywords: Black Sea, Sea of Azov, seasonal variability of wind waves, frequency spectra of wind waves, reference spectra, spectra classification

Tab. 1. Fig. 4. Ref. 29.