Runup of irregular waves with various statistics

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Runup of irregular waves, modeled as superposition of Furrier harmonics with random phases, is studied in frames of nonlinear shallow water theory. The possibility of appearance freak waves on a beach is analyzed. It is shown that average runup height for waves with wide spectrum is higher than for waves with narrow spectrum. If the initial statistics is not Gaussian, the probability of freak wave appearance increases in comparison with the Rayleigh distribution prediction.