



## New generation of Wind and Wave climate handbooks

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The advent of data reanalysis, development of hydrodynamic numerical wave models, and the application of high-performance computing results in the availability of hindcasted wave fields of long duration (40 or more years).

Russian Maritime Register of Shipping in 2003 started to publish Wind and Wave climate handbooks, based on these data (calculated by the authors of this report).

- 2003 for Barents, Okhotsk and Caspian Seas;
- 2006 for Baltic, North, Azov, Black and Mediterranean;
- 2009 for Japan and Kara Seas.
- 2010 for Bering and White Seas

In each new edition (along with traditional statistics) collection of wave information is extended. This new unique statistics are:

- \* 2003 — spatial storm statistics;
- \* 2006 — statistics for climatic frequency wave spectra and freak waves.
- \* 2009, 2010 extreme (with n-year return periods) climatic two-dimensional wave spectra for different wave making conditions and their combination. Maps of joint return periods for wave and wind.

Extreme wave spectra are regarded in connection with the probability of different wave classes (as a rule 5 classes of spectra are regarded: wind waves, swell, waves and swell with different combinations).

Approaches and main results of traditional and new wave climate statistics with details of calculations will be presented.