



Wind extreme waves in coastal zone of the Sakhalin Island

Andrey I. Zaytsev (1,2,3), Anatoliy E. Malashenko (1), Efim N. Pelinovsky (1,3,4), Konstantin I. Kuznetsov (1,2,5)

(1) Special Research Bureau for Automation of Marine Researches, Yuzhno-Sakhalinsk, Russia (aizaytsev@mail.ru), (2) Department of Applied Mathematics, Nizhny Novgorod State Technical University, Nizhny Novgorod, Russia (aakurkin@gmail.com), (3) Institute of Applied Physics, Nizhny Novgorod, Russia (pelinovsky@hydro.appl.sci-nnov.ru), (4) Research Centre for the Study of the Rogue Waves, Yuzhno-Sakhalinsk, Russia (enpeli@mail.ru), (5) Institute of Marine Geology and Geophysics, Yuzhno-Sakhalinsk, Russia (konstantin.kouznetsov@gmail.com)

In this work present processing results of observation data near Svobodny cape (southern east part Sakhalin island) for the period: November, 2011 – May, 2012. They are was taking with use bottom pressure station at the depth 16 m. Using bottom pressure sensors allows to receive long-term records of pressure fluctuation but fluctuations of bottom pressure generally don't coincide with sea level fluctuations. Therefore in data processing was used Transfer function. Totally about 200 abnormal waves were founded for 70 days non ice period of observations. The period of repeatability of extreme waves is estimated approximately 8 hours, it follows from Relays statistics for Gaussian excitement.

At least, two abnormally big waves more then 6 m. height were registered at December 24 and 25, 2011, occurred during cyclone movement. It should be noted that when passing this cyclone on December 18 in the central part of the Okhotsk Sea in 200 kilometers from Sakhalin the floating drilling platform "Kolskaya" was wrecked.

This study was partly supported by Russian Federation President Award №1935.2012.5