



## **The 1963 Urup tsunami on Sakhalin Island (Russia): observation and modeling**

Andrey Zaytsev (1), Irina Kostenko (1), Andrey Kurkin (2), Efim Pelinovsky (2,3,4), and George Pararas-Carayannis (5)

(1) Special Research Bureau for Automation of Marine Researches, Yuzhno-Sakhalinsk, Russia, (2) Nizhny Novgorod State Technical University n.a. R.E. Alekseev, Nizhny Novgorod, Russia (aakurkin@gmail.com), (3) Institute of Applied Physics, Nizhny Novgorod, Russia (pelinovsky@hydro.appl.sci-nnov.ru), (4) National Research University – Higher School of Economics, Moscow, Russia, (5) Tsunami Society International, Honolulu, Hawaii, USA (drgeorgepc@yahoo.com)

In the history of instrumental observations, the tsunami of 1963 generated in the vicinity of Urup in the Kuril Islands had the highest runup heights on the coasts of Sakhalin Island. It was generated by a strong earthquake which had a moment magnitude  $M_w$  8.1. The present study summarizes the known observations of this event along the coasts of Sakhalin, in the Hawaiian Islands and elsewhere in the Pacific Ocean. Additionally, the present study includes the numerical simulation of this 1963 tsunami event in the framework of nonlinear shallow water theory. The results of the numerical calculations are in good agreement with the observational data on Sakhalin Island.

**Acknowledgment:** This study was initiated in the framework of the state task programme in the sphere of scientific activity of the Ministry of Education and Science of the Russian Federation (projects No. 5.4568.2017/6.7 and No. 5.5176.2017/8.9) and RFBR grant 17-05-00067.