



The real-time method of the tsunami early warning.

Yu. Korolev

Institute of Marine Geology and Geophysics, Yuzhno-Sakhalinsk, RUSSIA (Contact Email
Yu_P_K@mail.ru)

The method of an approximate solution of a problem of the short-term tsunami forecast is offered. The method is based on a known reciprocity principle. In other words, the method is based on properties of a symmetry of Green function of a wave equation. The auxiliary computations are required for creating the transfer function. This transfer function allows to compute a tsunami waveform at a specific point near the coast using the ocean level data recorded at a remote point. The only seismological information about earthquake epicenter coordinates is necessary for computations (Yu.P. Korolyov. Tsunami Numerical Model for Short-Term Forecasting. *Oceanology*, 2004, v.44, No.3, pp. 346-352). The offered method can work by real-time mode. The preliminary tsunami forecast can be made after the first quarter of tsunami wave was recorded by sea level gauge. Then the forecast is being updated. The actual ocean level data of Andreanov 1996 tsunami were applied to check the offered method. The data of bottom pressure recorders AK70, AK71, AK72 for computation tsunami waveform in a point near the US west coast were used. These computations were compared with the form of a tsunami registered by the bottom pressure recorder WC67 (V.V. Titov, F.I. Gonzalez. Implementation and Testing of the Method of Splitting Tsunami (MOST). NOAA Technical Memorandum ERL PMEL-112, 1997). Computations were fulfilled using both full tsunami waveform (2 h data) and partial waveforms (20 min, 40 min etc. data) simulating real-time mode. In all cases the satisfactory concurrence between measured and computed waveforms for a head part of a wave is obtained. The divergences were observed only in a tail of waves. The work is supported by FEB RAS, grant 06-III-A-07-248.