

## Tsunami sources of November 2006 and January 2007 Kuril earthquakes

# Yushiro Fujii[1]; Kenji Satake[2]

[1] IISSE, BRI; [2] Active Fault Research Center, AIST, GSJ

We have performed tsunami simulations for the Kuril earthquakes which occurred on November 15, 2006 (46.577°N, 153.247°E, Mw=8.3 at 11:14:16 UTC according to USGS) and January 13, 2007 (46.288°N, 154.448°E, Mw=8.2 at 04:23:20 UTC according to USGS), and found that the seismic moment of the Nov. 2006 event was larger than that of the Jan. 2007 event.

The tsunamis generated by these two earthquakes were recorded at many tide gauge stations located in and around the Pacific Ocean. The DART buoy systems installed and operated in deep oceans by National Oceanic & Atmospheric Administration (NOAA) also captured these tsunamis. We have collected and downloaded the tide records at 90 or more stations from Japan Meteorological Agency (JMA), Japan Coast Guard (JCG), Geographical Survey Institute (GSI), Sakhalin Tsunami Warning Center (STWC), West Coast & Alaska Tsunami Warning Center (WCATWC), NOAA and their web sites. The observed tsunami records indicate that the Nov. 2006 tsunami was twice or three times larger than that of the Jan. 2007 tsunami.

For the tsunami simulation, we adopted the following fault models. For the Nov. 2006 event, the fault model is based on Global CMT solution (strike: 214°, dip: 15°, rake: 90°, length: 200 km, width: 100 km, average slip: 4 m, rise time (source duration): 100 s). For the Jan. 2007 event, the fault model is based on Yagi's model (strike: 215°, dip: 45°, rake: -110°, length: 160 km, width: 40 km, average slip: 5 m, rise time: 50 s). The computed tsunami waveforms from the above fault models explain well the observed ones at most of tide and DART stations. These indicate that the seismic moment of Nov. 2006 event was twice or third times larger than the Jan. 2007 event, since the seismic moment ratio for the adopted source model of Nov. 2006 event to Jan. 2007 event is 2.5 to 1, assuming the same rigidity.