

2004 Indian tsunami in Thailand: Tsunami height and tide gauge records

Yoshinobu Tsuji[1]; Hiroyuki Matsumoto[2]; Yuichi Namegaya[1]; Sin-Iti Iwasaki[3]; Kanbua Wattana[4]; Mongkonkorn Srivichai[5]; Meesuk Vorawit[6]

[1] ERI, Univ. Tokyo; [2] DSRD, JAMSTEC; [3] NIED; [4] MMD, Thai; [5] Ransit Univ.; [6] HAIL, Thai

Tsunami due to the Mw9.0 Sumatra-Andaman Islands earthquake of 26 December 2004 affected many countries around the Indian Ocean, including Indonesia, Sri Lanka, Maldives, and India. Thailand, which is located approx. 500 km east from its source, was also severely suffered by the tsunami attacks. From 24 February to 4 March 2005, we surveyed the damaged areas in Thailand, including five small islands, Ta Phao Noi, Kho Khao, Phra Thong, Ra, and Sai Dam Islands. Because the other tsunami survey team organized by Matsutomi et al. (2004) and Satake et al. (2005) completed at the middle of Thailand, particularly Phuket and Khao Lak, we surveyed the area up to the border between Thailand and Myanmar except for Phuket and Khao Lak, so that the whole coastal zone of the Andaman Sea could be covered. Tsunami run-up height, for example, reached up to 19 m at Ban Thung Dam of Phra Thong Island. Because the tsunami overflowed the island, in some cases, no infrastructures remained, while no damage could be found in Ranong located at the border of Myanmar. After 37 measurements, the distribution of tsunami height could be completed. Measured run-up or inundation heights are less than 10 m, except for in a few locations. The destructive damaged areas concentrated in the central Thailand. During our survey, we also collected five tidal dataset recorded in analog papers at the tsunami arrivals. Other two stations digitalized also well worked during the tsunami, therefore, totally seven tidal records were obtained in Thailand. All of the recorded tidal datasets indicated that sea surface initially withdrew with duration in 30 to 60 min, followed by the rising-up. This phenomenon corresponds to the eyewitnesses' accounts of the survivors who experienced the tsunami.