

## Field Survey of the East Java Earthquake and Tsunami of June 3, 1994

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*Abstract* A field survey of the June 3, 1994 East Java earthquake tsunami was conducted within three weeks, and the distributions of the seismic intensities, tsunami heights, and human and house damages were surveyed. The seismic intensities on the south coasts of Java and Bali Islands were small for an earthquake with magnitude  $M$  7.6. The earthquake caused no land damage. About 40 minutes after the main shock, a huge tsunami attacked the coasts, several villages in East Java Province were damaged severely, and 223 persons perished. At Pancer Village about 70 percent of the houses were swept away and 121 persons were killed by the tsunami. The relationship between tsunami heights and distances from the source shows that the Hatori's tsunami magnitude was  $m = 3$ , which seems to be larger for the earthquake magnitude. But we should not consider this an extraordinary event because it was pointed out by HATORI (1994) that the magnitudes of tsunamis in the Indonesia-Philippine region generally exceed 1-2 grade larger than those of other regions.

**Key words:** 1994 East Java Tsunami, aftershock area, large tsunami with weak shaking, house and human damage due to the tsunami, relationship between earthquake and tsunami magnitudes.

### 1. Introduction

A large earthquake of magnitude  $M_w$  7.6 ( $M_s$  7.2) occurred off the southeast coast of Java Island, Indonesia at 01h 17m local time on June 3, 1994 (at 18h 17m GMT on June 2). The epicenter was at 10.5°S, 113.0°E (by NEIC, USGS) about 240 km from the nearest coast. The shock was felt on east Java Island and on Bali Island. Only ten to twenty percent of the inhabitants of the villages on the nearest

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