the results of hydrodynamic interaction with the shallow bathymetry and local topography. It is probable that such interactions will be very important in controlling the precise run-up in larger tsunamis and this study would support the use of detailed bathymetric and topographic models for assessing likely run-up from threatened tsunamis. In this instance the correct run-up for beach b for comparison with numerical simulations is the mean of the measurements, about 1.2±0.25m not the maximum run-up along this stretch of coast, about 1.7m, which is often recorded in tsunami surveys.

Figure 7 shows predicted versus observed tsunami run-up for the project. Firstly, the average result for the entire survey is entirely consistent with theory. The theoretical relationship would have predicted an average inundation for this coast of about 0.9±0.3m, the observed heights were about 0.9±0.5m. The detail, however, is more complex and this mean is the result of long-wavelength smoothing of significant variability.

A clear finding of this work is the importance of using appropriate scale variability and the use of full hydrodynamic models in the forecasting of tsunami inundation. We note that such work is currently being carried out for the city of Padang in western Sumatra.

## 9 Publications

McCloskey et al. (2007), Lessons from the 2007 Mentawai Islands earthquakes, *Eos Trans. AGU, 88* (52), Fall Meet. Suppl., Abstract U53A-03

A paper is in preparation for Nature Geoscience.

## 10 References

Konca, A.O. et al. 2008. **Nature**, **456** . pp. 631-635.
McCloskey, J., et al. 2007. ***GRL*., 34**, L14316,.
McCloskey, J. et al. 2008. ***EPSL***, **265**, *61-81*.