



The Global Tsunami Model (GTM)

Finn Løvholt and the Global Tsunami Model Network Team
Norwegian Geotechnical Institute, Oslo, Norway (flo@ngi.no)

The large tsunami disasters of the last two decades have highlighted the need for a thorough understanding of the risk posed by relatively infrequent but disastrous tsunamis and the importance of a comprehensive and consistent methodology for quantifying the hazard. In the last few years, several methods for probabilistic tsunami hazard analysis have been developed and applied to different parts of the world. In an effort to coordinate and streamline these activities and make progress towards implementing the Sendai Framework of Disaster Risk Reduction (SFDRR) we have initiated a Global Tsunami Model (GTM) working group with the aim of i) enhancing our understanding of tsunami hazard and risk on a global scale and developing standards and guidelines for it, ii) providing a portfolio of validated tools for probabilistic tsunami hazard and risk assessment at a range of scales, and iii) developing a global tsunami hazard reference model. This GTM initiative has grown out of the tsunami component of the Global Assessment of Risk (GAR15), which has resulted in an initial global model of probabilistic tsunami hazard and risk.

Started as an informal gathering of scientists interested in advancing tsunami hazard analysis, the GTM is currently in the process of being formalized through letters of interest from participating institutions. The initiative has now been endorsed by the United Nations International Strategy for Disaster Reduction (UNISDR) and the World Bank's Global Facility for Disaster Reduction and Recovery (GFDRR). We will provide an update on the state of the project and the overall technical framework, and discuss the technical issues that are currently being addressed, including earthquake source recurrence models, the use of aleatory variability and epistemic uncertainty, and preliminary results for a probabilistic global hazard assessment, which is an update of the model included in UNISDR GAR15.