

Editorial

Editorial for Special Issue “Interdisciplinary Geosciences Perspectives of Tsunami Volume 3”

Anawat Suppasri

International Research Institute of Disaster Science, Tohoku University, Miyagi Prefecture 980-0845, Japan;
suppasri@irides.tohoku.ac.jp

Disaster-related research has its own interdisciplinary perspectives connected to the disaster cycle (response, recovery, prevention, and preparedness). This Special Issue focuses on interdisciplinary geosciences perspectives of tsunami that cover the whole process of tsunami disasters (generation, propagation, impact assessment, psychological perspectives, and planning).

This Special Issue “Interdisciplinary Geosciences Perspectives of Tsunami Volume 3” provides a collection of recent studies on tsunami-related problems from the current understanding of tsunami generation/recurrent, simulation of seismic and non-seismic tsunamis, tsunami protection, damage/risk assessment, climate change impact on tsunami and tsunami resilience. Mutaqin et al. (2021) [1] performed radiocarbon dating of coral and seashell samples for examining historical earthquake-generated tsunamis along the Alas Strait, West Sumbawa, in Indonesia. Similarly, Williams et al. (2020) [2] performed radiocarbon and radiometric dating and reevaluated the depositional evidence available for Samoa, offering a more robust interpretation of the temporal and spatial records of tsunami events preserved in the Samoan sedimentary record. Marras and Mandli et al. (2021) [3] performed a review of tsunami modeling and simulation in various perspectives and described the different approaches to tsunami modeling from generation to impact, underlining the limits of each model based on the flow régime and the perspective of a future comprehensive multi-scale modeling infrastructure to simulate a full tsunami. Sadaka and Dutykh (2020) [4] proposed a new tsunami propagation model using new technology/software and a novel adaptivity technique, along with all source codes necessary for implementation. Momeni et al. (2020) [5] performed a stochastic analysis of tsunami hazard along the Makran Subduction Zone by verifying the historical event in 1945 and evaluating the effect of uncertain fault geometry and earthquake slip based on simulated near-shore wave profiles. Arnaud et al. (2021) [6] considered sea level rise as a climate change impact to potential tsunami caused by collapse of the Cumbre Vieja volcano in La Palma, Canary Islands (French West Indies) using tsunami inundation modeling. Pakoksung et al. (2021) [7] performed a probabilistic tsunami hazard analysis of a volcanic eruption tsunami based on the perspective of the 1716 eruption in Taal Lake, Philippines and evaluated the impact on buildings using tsunami inundation model results. Silva and Araki (2020) [8] investigated a wall and trench combination to identify its benefits as a defense measure against an overtopping tsunami-like wave by focusing several arrangements and geometries of a wall and trench combined structural system, located on the shoreline. Paulik et al. (2020) [9] applied the exposure component of a risk model framework to deliver a first national-scale assessment of New Zealand’s population and built-environment exposure in tsunami evacuation zones. Gu et al. (2021) [10] offered an end-to-end workflow to define relief zone suitability and equitable relief service zones for Los Angeles (LA) County by considering a wide variety of inputs, including geological features, population, and public safety. Pushpalal and Suzuki [11] proposed a new methodology as a mathematical model for measuring tsunami resilience with the theory of springs, using aggregation of three components of the effective resilience namely, onsite



Citation: Suppasri, A. Editorial for Special Issue “Interdisciplinary Geosciences Perspectives of Tsunami Volume 3”. *Geosciences* **2021**, *11*, 146. <https://doi.org/10.3390/geosciences11030146>

Received: 16 March 2021

Accepted: 16 March 2021

Published: 23 March 2021

Publisher’s Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2021 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

capacity, instantaneous survivability, and recovery potential of the area. The editor wishes that the readers will gain benefits from the various interdisciplinary papers collected in this Special Issue.

References

1. Mutaqin, B.W.; Lavigne, F.; Wassmer, P.; Trautmann, M.; Joyontono, P.; Gomez, C.; Septiangga, B.; Komorowski, J.; Hadmoko, J.S.S. Evidence of Unknown Paleo-Tsunami Events along the Alas Strait, West Sumbawa, Indonesia. *Geosciences* **2021**, *11*, 46. [[CrossRef](#)]
2. Williams, S.; Titimaea, A.; Bosserelle, C.; Simanu, L.; Prasetya, G. Reassessment of Long-Term Tsunami Hazards in Samoa Based on Sedimentary Signatures. *Geosciences* **2020**, *10*, 481. [[CrossRef](#)]
3. Marras, S.; Mandli, K.T. Modeling and Simulation of Tsunami Impact: A Short Review of Recent Advances and Future Challenges. *Geosciences* **2021**, *11*, 5. [[CrossRef](#)]
4. Sadaka, G.; Dutykh, D. Adaptive Numerical Modeling of Tsunami Wave Generation and Propagation with FreeFem++. *Geosciences* **2020**, *10*, 351. [[CrossRef](#)]
5. Momeni, P.; Goda, K.; Heidarzadeh, M.; Qin, J. Stochastic Analysis of Tsunami Hazard of the 1945 Makran Subduction Zone Mw 8.1–8.3 Earthquakes. *Geosciences* **2020**, *10*, 452. [[CrossRef](#)]
6. Arnaud, G.E.; Krien, Y.; Abadie, S.; Zahibo, N.; Dudon, B. How Would the Potential Collapse of the Cumbre Vieja Volcano in La Palma Canary Islands Impact the Guadeloupe Islands? Insights into the Consequences of Climate Change. *Geosciences* **2021**, *11*, 56. [[CrossRef](#)]
7. Pakoksung, K.; Suppasri, A.; Imamura, F. Probabilistic Tsunami Hazard Analysis of Inundated Buildings Following a Subaqueous Volcanic Explosion Based on the 1716 Tsunami Scenario in Taal Lake, Philippines. *Geosciences* **2021**, *11*, 92. [[CrossRef](#)]
8. Silva, A.; Araki, S. Investigating the Behavior of an Onshore Wall and Trench Combination Ahead of a Tsunami-Like Wave. *Geosciences* **2020**, *10*, 310. [[CrossRef](#)]
9. Paulik, R.; Craig, H.; Popovich, B. A National-Scale Assessment of Population and Built-Environment Exposure in Tsunami Evacuation Zones. *Geosciences* **2020**, *10*, 291. [[CrossRef](#)]
10. Gu, Y.; Aydin, O.; Sosa, J. Quantifying the Impact of a Tsunami on Data-Driven Earthquake Relief Zone Planning in Los Angeles County via Multivariate Spatial Optimization. *Geosciences* **2021**, *11*, 99. [[CrossRef](#)]
11. Pushpalal, D.; Suzuki, A. A New Methodology for Measuring Tsunami Resilience Using Theory of Springs. *Geosciences* **2020**, *10*, 469. [[CrossRef](#)]