TMSI Tropical Marine Science Institute
National University of Singapore

RESEARCH SEMINAR

Past and Future Sea Level Variations along Singapore's Coastline in a Warming Climate

By Dr. Farzin Samsami
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Date: **Monday, 15 December 2025**
Time: **2 – 3 pm**
Format: Hybrid – Attend in person at: TMSI Conference Room, S2S Building, No. 18 Kent Ridge Road, Singapore 119227
Please register: https://nus-sg.zoom.us/webinar/register/WN_XG-eDOOuQ6a-qEwW4QQSgA
Zoom link will be sent to you.

ABSTRACT:
Low-lying coastal cities like Singapore are increasingly exposed to sea level rise and variability, which pose significant risks of flooding and erosion. Investigation of the key drivers of sea level changes, focusing on tidal variations, non-tidal residuals, wave dynamics, and climate-induced sea level rise change, is crucial along Singapore's coastline. By integrating tide gauge data, satellite altimetry, and numerical modeling, we analyze the contributions of these factors to current and future sea levels. Using hindcast simulations and projections based on CCRS's SINGV-RCM utilizing CMIP6 GCMs, we develop a comprehensive understanding of storm surges and sea level dynamics in the region. The seminar will explore historical trends and future scenarios, assessing potential impacts on coastal communities, ecosystems, and infrastructure.

About the Speaker:
Dr Farzin Samsami holds a Ph.D. in Civil/Coastal Engineering and is currently a Senior Research Fellow at the Physical Oceanography Research Laboratory (PORL), Tropical Marine Science Institute, National University of Singapore. His research interests pertain to coastal oceanography and engineering, coastal and estuarine processes, coastal hydrodynamic modelling, coastal morphology, sediment dynamics and transport, climate change and coastal hazards, coastal resilience and nature-based solutions. Earlier in his career, he served as a Research Fellow at the Singapore Institute of Technology, working on a project to investigate storm surges in the Singapore area. He was a Postdoctoral Research Associate at Heriot-Watt University on a EPSRC-funded project focusing on the dynamics of mixed sediments. He also served as a Visiting Scholar at the University of Florida, contributing to the Suisun Bay Wave Study, and conducted research on wave-current-mud interactions at Waseda University.

Host: Dr. Pavel Tkalich, Dr. Haiwei Shen