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T1.5-P05. Assessment of tsunami hazards from the Manila Trench source to Vietnam using worst case scenarios

In this study, we create worst-case scenarios of tsunami earthquake excited by Manila Trench megathrust and assess the impact to the Vietnamese coast. The tsunami propagation is numerically computed by using the COMCOT open source code. The simulation results show that the Vietnamese coast can be divided into three parts with different levels of tsunami hazards. According to the worst case scenario (Mw=9.3), the maximum wave height of 18 m is observed at Quang Ngai coast.Regarding the tsunami travel time, the most vulnerable cities are Tuy Hoa (2:06 h), Nha Trang (2:28 h), Quy Nhon (2:32 h), and Ninh Thuan (2:35 h). The northern coastal zone of Vietnam has medium tsunami hazards level. According to the worst case scenario, the maximum amplitude of tsunami wave at Hai Phong and Nam Dinh virtual gauge stations are 3.5 m and 3.7 m, respectively, while the travel times to these stations are much longer, reaching 8:35 h and 9:45 h, respectively. The southern coastal zone of Vietnam has lowest tsunami hazards level. According to the worst case scenario, the maximum amplitude of tsunami wave at Ca Mau virtual gauge station is 0.12 m, while the travel time is over 10 hours.

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