

Sinkhole Hazard Evaluation at Ban Din So School, Kanchanaburi, Western Thailand, a Possible Far-Filed Effect from the M 9.15 Sumatra Earthquake on December 26, 2004

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The buildings' structural damages at the Ban Din So School in Kanchanaburi, western Thailand shortly after the great magnitude 9.15 Sumatra earthquake on December 26, 2004 prompts an evaluation of subsurface condition. The results from resistivity imaging surveys indicate that the school is located within the weak zone of subsurface and contains potential sinkhole hazard. The mitigations to reduce potential hazard from sinkhole collapse are suggested to the school's administrators. In addition, another building's structural damage is reported at the same period at the Ban Hin Dad School, approximately 30 km to the south of the first school. A significant increasing of water temperature and changing of physical properties of warm water from the Hin Dad Hot Spring nearby and a change in ground water level in Sai Yok, about 80 km to the east of the affected area, are also reported. As the positions of affected sites are located along the segments of the Three Pagodas Fault Zone, it may suggest that this fault could have been reactivated temporarily after the earthquake. Neither additional structural damages at both schools nor other seismicities have been reported in the area since then. As the affected areas are located in Kanchanaburi, over 1,200 km away from the epicenter of this earthquake, and numerous sinkhole collapses during the same period are reported in the southern Thailand, it could suggest a possible far-field effect of this earthquake on subsurface throughout the southern and western Thailand.

References

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