

## How to choose the sensitive site to earthquakes?~Studies of spatial sensitivity of the hydrological response to earthquakes

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Numerous observed earthquake induced hydrological changes inferred some sensitive wells could detect the tiny signals of the crustal deformation. But the reasons and mechanisms included for the sensitive wells are not well-known. Some previously study (Matsumoto et al., 2003; Roeloffs et al., 2003) show individual mechanism could be the reasons made the wells with high sensitivity to earthquake. Also the earthquake induced hydrological changes shows the high variances in spatial distribution (Lai et al., 2005). To make a criteria for choosing sensitive sites or wells are still quite a big challenge.

In this study, we using the observations of the groundwater and earthquake monitoring network in Taiwan act as the dense observation dataset to the earthquake induced hydrological responses. The comparison of the all events (detectable and non detectable) in groundwater level and the inferred volumetric strain step in response to the earthquake events were discuss. These observations had been geostatistically analysis for estimate the sensitivity of the observation well to different spatial regions. The results issued the limitation and ability of the detection of the observation well spatially. Base on the spatial distribution of the detection, we should choose fitted sites or wells for the purpose.

### Reference

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