

Mapping the fissure potential zones based on microtremor measurement in Denpasar City, Bali

Publons ID	37933331
Wos ID	WOS:000371587700012
Doi	10.1088/1755-1315/29/1/012012
Title	Mapping the fissure potential zones based on microtremor measurement in Denpasar City, Bali
First Author	Prabowo, U. N.; Marjiyono; Sismanto;
Last Author	
Authors	Prabowo, UN; Marjiyono; Sismanto;
Publish Date	2016
Journal Name	PADJADJARAN EARTH DIALOGUES: INTERNATIONAL SYMPOSIUM ON GEOPHYSICAL ISSUES, PEDISGI
Citation	2
Abstract	<p>Denpasar City and its vicinity considered as the areas with excessive ground water exploitation and high earthquake intensity. These conditions will cause these area potential with land subsidence which is triggering ground fissures. This research aims are to mapping the fissures potential areas based on microtremor measurement in Denpasar City and its vicinity. Ground fissures will happen if the land subsidence occurs in the areas which have different bedrock height beneath its sedimentary layer. The height of bedrock is determined by reducing surface elevation with the sedimentary layer thickness. This sedimentary layer thickness obtained from microtremor measurement using HVSR method, and Shear wave velocity (VS) obtained from microtremor array measurement which is analyzed by Spatial Auto Correlation (SPAC) method. The result from HVSR method as well as Peak Ground Acceleration (PGA) value are then analyzed to get ground shear strain value, which is the soil surface strain and its effect when earthquake occurs. Based on the bedrock map, it can be estimated that the bedrock layer forms structure in the southern part of the research areas and the potential fissuring area due to the massive ground water exploitation is in the west Denpasar Subdistrict. In addition, based on the bedrock map and ground shear strain value which combined with Simple Additive Weight (SAW) method, there are two areas having fissuring potential, i.e west and south Denpasar Subdistricts.</p>
Publish Type	Book in series
Publish Year	2016
Page Begin	(not set)
Page End	(not set)
Issn	1755-1307
Eissn	
Url	https://www.webofscience.com/wos/woscc/full-record/WOS:000371587700012
Author	URIP NURWIJAYANTO PRABOWO, S.Pd, M. Sc