



Deformation in the Bataan Volcanic Arc Complex measured with PSInSAR

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Persistent Scatterer Interferometric Synthetic Aperture Radar (PSInSAR) studies on the Bataan Volcanic Arc Complex, Philippines, reveal tectonic deformation of Natib Volcano associated with movement of the Lubao Fault. Differential movement of blocks alongside the north-northeast trending Lubao Fault, measured in terms of line-of-sight (LOS) change in the radar signal, is as much 31.9 mm/year. The Lubao fault, based on PSInSAR time-series analysis of ascending and descending images over a 5-year period, shows oblique-slip right-lateral movement with the eastern block moving downward. Coupled with morphological interpretation of high-resolution digital elevation models, the results of the PSInSAR study highlights earthquake hazards associated with a poorly understood fault that straddles a populated region in Central Luzon. The advancement on the understanding of the kinematics and dynamics of the Lubao Fault is an important step in preparedness efforts against the potential hazard impacts it may create.