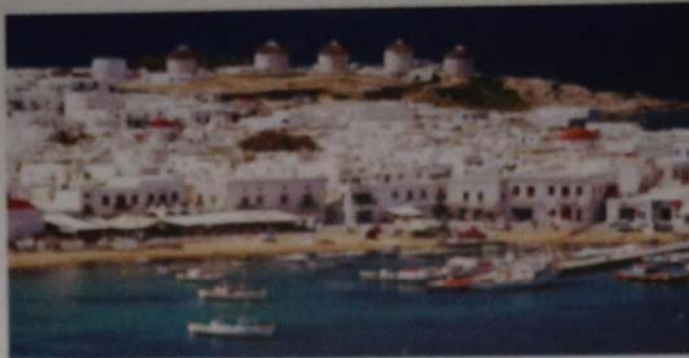




European Association  
of Remote Sensing Laboratories



**4<sup>th</sup> international workshop of the EARSeL  
Special Interest Group "Geological Applications"**

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## Monitoring surface evolution along active normal faults with ground LiDaR scanning

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**Keywords:** active faulting, laser scanner, ground LiDaR, rock-fall

**Abstract:** Active faulting usually produces a dynamic and continuously evolving morphology along the fault trace but also at the adjacent area. The morphologic discontinuities which are often created due to the relative displacement of the fault walls, host quite a few structures that are vulnerable to erosion and surface alterations. The technology of Light Detection and Range ground based instruments is a valuable tool used for topographic micro-analysis of recently exposed fault surfaces and consequently for detailed mapping and structural measuring. In this paper we suggest a methodology for monitoring the stability of an almost vertical active fault surface with lots of tectonic structures on it but also with a large amount of brittle debris material lying on top of it. This methodology was based on several laser scans with a ground LiDaR and the detailed mapping of weak zones along the fault surface led to the construction of a rock-fall hazard model.