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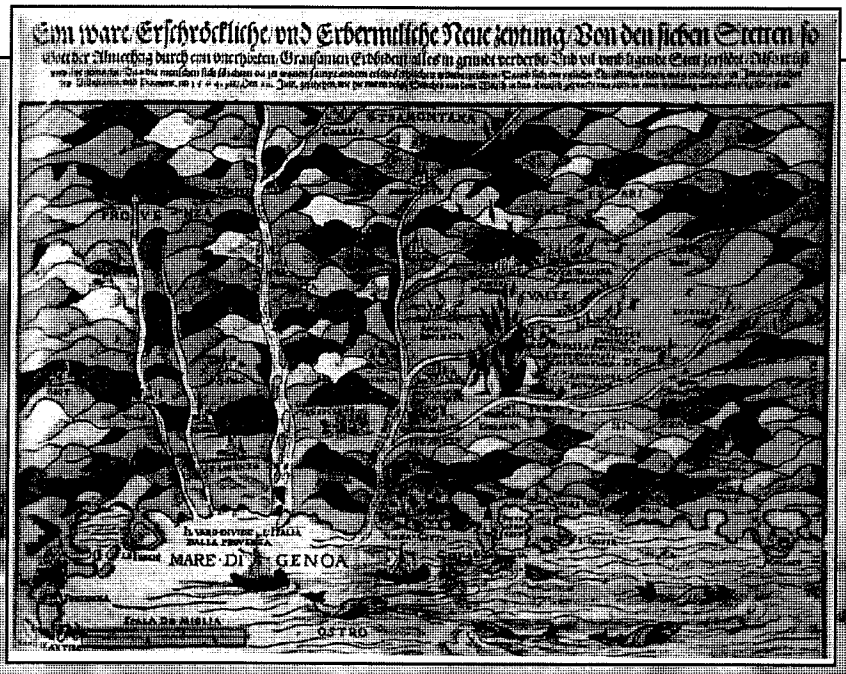

Book of Abstracts

University of Genoa, Italy

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NEW EVIDENCE FOR ANTICLINAL GROWTH DRIVEN BY BLIND FAULTING ALONG THE NORTHERN MARCHE COASTAL BELT (CENTRAL ITALY).

P. Vannoli, R. Basili and G. Valensise
Istituto Nazionale di Geofisica e Vulcanologia,
Via di Vigna Murata, 605, 00143 Rome, Italy - .
vannoli@ingv.it

The Northern Marche coastal belt is characterized by a series of NW-SE trending, NE verging fault-propagation-folds, which form the easternmost edge of the Apennines thrust front. Several geomorphic features indicate that the anticlines are still growing and, consequently, that the thrust front is active. In addition, the occurrence of several historical and instrumental earthquakes (e.g. 4/14/1672, Me 5.7; 1690, Me 5.5; 12/25/1786, Me 5.7; 3/17/1875, Me 5.8; 5/17/1916, Me 5.7; 8/16/1916, Me 5.6; 10/30/1930, Me 5.9; 6/14/1972, Me 5.2), suggests that the thrust faults can also be seismogenic. We performed a geomorphological analysis of growing anticlines aimed at identifying and characteristing their driving blind thrust faults. Our approach is based on the assumption that anomalous drainage patterns and deformed recent geomorphic features (Middle-Late Pleistocene alluvial and coastal terraces) are indicators of the vertical component of tectonic movements. The study was conducted at two different wavelengths to discriminate the contributions of regional (100 km) and local (10 km) tectonic processes. Flights of alluvial and coastal terraces have been identified, mapped, and correlated with sea-level fluctuations. Long profiles of the lower reaches of six rivers (Conca, Foglia, Metauro, Cesano, Misa, and Esino) show that Terraces converge downstream: indicating that regional uplift tapers to zero within 10 km of the coast offshore. Some river terraces are also slightly up-warped where they cross anticline axes. We interpreted as coastal terraces several land-surface remnants arranged as ribbons parallel to the present-day coastline. Lower land-surface remnants clearly top off landward- tilted (ca. 2°) coastal deposits. Reconstructed coastal terrace treads seem also to be warped in relation with prospective blind fault. Our results help characterise the geometry, segmentation, and long-term history of a fault system that hosts the sources of the largest earthquakes in the Northern Marche region. They could also indicate the loci of possible seismic gaps.