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Active Fault Systems in the inner North West Apennines: an updated view

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As part of an ongoing project of mapping, structural studies and fault characterization we present an updated tectonic scheme and data set for the active fault systems that shaped the inner portion of the Apennines north of the Arno river. Geomorphology, stratigraphy of Plio-Quaternary sediments, GPS data, historical and instrumental seismicity have been reviewed and combined with structural studies to define the neotectonic history of the investigated region. Within the studied area, first-order physiographic and structural features allow to define different structural domains related to a set of ranges with a dominant NW-SE direction separated by intramontane or continental/marine morphotectonic depressions of the Lunigiana, Garfagnana, Lucca-Mt.Albano, La Spezia-Carrara and the off-shore Viareggio basin. The main boundary faults and internal fault segments of the different structural domains were described while the Plio-Quaternary sedimentary records has been used to constrain their long to short term deformation and rates, with the aim to improve current Italian catalogues - DISS (INGV) and Ithaca (ISPRA) - with some utilities for the seismic microzonation local projects. Moreover, our work aims to draw the attention of the scientific community to the seismotectonics of a region in which the seismic hazard is largely considered medium to low despite the occurrence, one century ago, of one of the most destructive earthquakes that have struck the Italian peninsula, the 1920 Fivizzano EQ, with an estimated Mw 6.5 similar to the main shock of the 2016 Central Italy seismic sequence.