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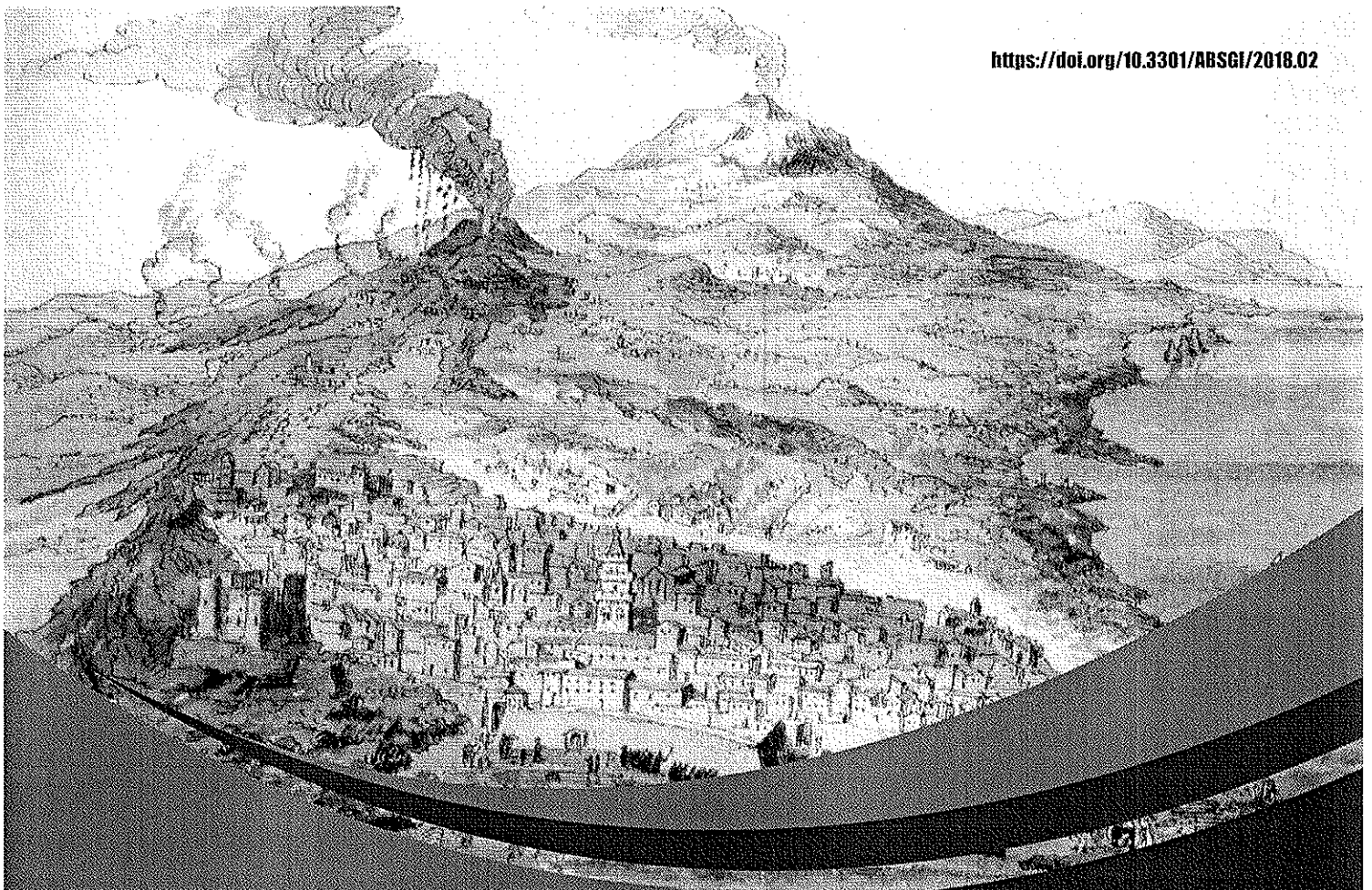

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ABSTRACT BOOK

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«Geosciences for the environment, natural hazards and cultural heritage»

Structural mapping of Italian Seas: an integrated view of different geological events

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Since 2012 an open working group, coordinated by ISPRA-SGI, involving researchers from various universities and research institutes, has been discussing the contents and representation of a "Structural map of Italian seas."

The first step was to identify, classify and reorganize existing data, to agree on the minimum descriptive requirements needed to define meaningful structural elements, to convey all of the available structural data and to elaborate a reasoned GIS representation of the relevant tectonic elements.

Data represented in the last published version of national structural map (Bigi et al., 1990-92) have been updated and implemented by data and results obtained in the frame of the ongoing Italian National Geological Mapping Project (CARG), as well as by additional data collected by different national research institutions within other projects. They have not yet been reported in regional synthesis papers.

Since 2009 the European Union has created a coordinated and harmonized web GIS service regarding geological knowledge of submerged areas by means of the EMODNet - Geology Project (http://www.emodnet-geology.eu/emodnet/srv/eng/home). Within the Work Package dedicated to "Geological events and probabilities" (led by the Geological Survey of Italy-ISPRA) procedures to collect geological data concerning earthquakes, volcanoes and submarine slides have been identified.

The comparison of all available tectonic lineaments with the outcomes elaborated for EMODnet-Geology has led to the identification of the structural elements as basic components for an updated and more complete structural model for the Italian submerged areas, in agreement with the model established on land.

Regional scale structural domains ("crustal units") have been defined according to a geodynamic approach, also based on the characteristics of volcanic seamounts, grouped into districts identified on the basis of chemical composition, age and geographical location. Structural elements, classified according to EMODNet terminology (INSPIRE compliant), will be mapped starting from this representation.

The map is intended to provide a scientific useful tool for either basic or applied research, as well as for scientific learning, since it represents the "state of the art" at the end of a decades data collection period and allows at the same time both a synthetic overview of the geological structure of large areas, and to grasp the most significant regional structures of a given sector.

Bigi, G., Cosentino, D., Parotto, M., Sartori, R. & Scandone, P. (Eds) (1990-92): Structural Model of Italy, scale 1:500,000. CNR, Progetto Finalizzato Geodinamica. S.EL.CA., Firenze.