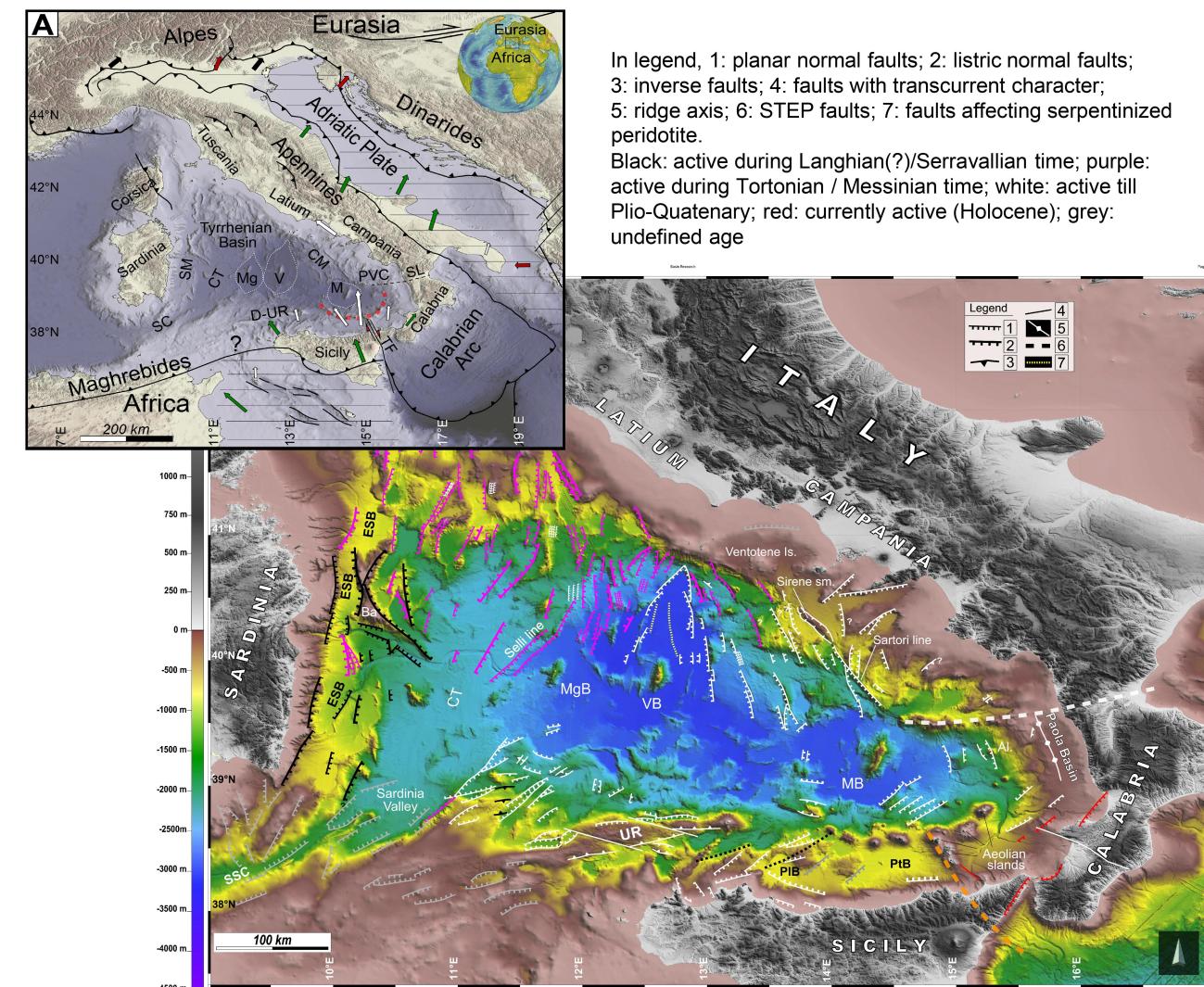
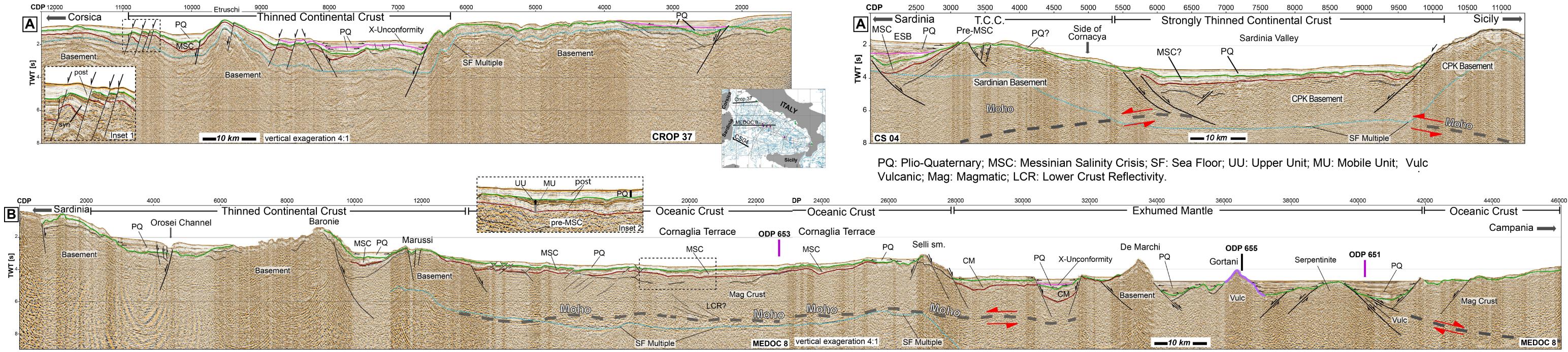
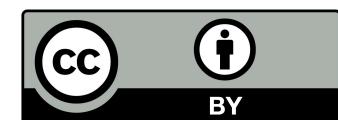


Extensional tectonics during the Tyrrhenian back-arc basin formation synthetized in a new morpho-tectonic map

Maria F. Loreto^{1*}, Nevio Zitellini¹, César R. Ranero², Camilla Palmiotto¹ and Manel Prada³

¹ National Research Council (CNR), Institute of Marine Sciences (ISMAR), Bologna, Italy; ² Institut Català de Recerca i Estudis Avançats, ICREA, Barcelona, Spain; ³ Barcelona Center for Subsurface Imaging, ICM, CSIC, Barcelona, Spain; * filomena.loreto@bo.ismar.cnr.it



A new tectonic map is presented focused upon the extensional style accompanying the formation of the Tyrrhenian back-arc basin. Our basin-wide analysis synthetizes the interpretation of vintage multichannel and single channel seismic profiles integrated with modern seismic images and P-wave velocity models. Distribution of extensional faults, active since Middle Miocene, throughout the basin allowed us to define a faults arrangement in the northern / central Tyrrhenian mainly related to a pure shear which evolved a simple shear opening of continental margins. Extensional style variation throughout the back-arc basin, allow to explore the relationship between shallow deformation, represented by faults distribution throughout the basin, and crustal-scale processes, subduction of Ionian slab and exhumation

