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34TH IAS

INTERNATIONAL
MEETING OF SEDIMENTOLOGY
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*"SEDIMENTOLOGY TO FACE SOCIETAL CHALLENGES
ON RISK, RESOURCES AND RECORD OF THE PAST"*



ABSTRACT BOOK


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Mass transport deposits and geo-hazard assessment in the Bradano Foredeep (Southern Apennines, Ionian Sea)

Andrea Artoni (1), Alina Polonia (2), Luigi Torelli (3), Luca Gasperini (2), Mirko Carlini (4), Paola Mussoni (5)

(1) University of Parma, (2) Institute of Marine Science CNR ISMAR-Bo, Via Gobetti, 101, 40129 Bologna, Italy, (3) Department of Chemistry, Life Sciences and Environmental Sustainability University of Parma, Parco Area delle Scienze, 157/A – Parma, (4) University of Bologna, BiGeA-Department of Biological, Geological and Environmental Sciences, Bologna, Italy, (5) ENI S.p.A., E & P Div., Via Emilia, 1 – 20097, San Donato Milanese (MI), Italy

Seafloor bathymetry, combined with multi-scale seismic reflection profiles, were used to describe the morphostructural setting of the Bradano Foredeep (Gulf of Taranto, northern Ionian Sea), where a submerged portion of the Southern Apennines is facing the Apulia Platform in the Calabrian Arc convergent margin. In this complex area, marine geophysical data highlight the presence of two mega-slide deposits at the shelf-slope transition, which are most likely the largest ever described in the region. These slide masses, named the Bradano Basento MegaSlide (BBMS) and Bradano Basento MegaSlide 1 (BBMS1), form a Mass Transport Deposit Complex (MTDC) affecting and eroding the topmost portion of the outer Apennines deformation front and the Apulian Foreland Ramp. It was emplaced in late Pleistocene times inside the narrow (about 10 km wide) Bradano Foredeep basin, a Plio-Pleistocene submarine trough developing at the chain front. The youngest of these deposits (BBMS1) likely predates the Last Glacial Maximum. Location of the MTDC within the subduction complex suggests that active tectonics and seismic shaking might represent the main triggering mechanisms for gravitative instability in this area, although gravitational tectonics and sediment creeping mechanisms cannot be excluded. On the other hand, size and distribution of the MTDC in the sedimentary record of the Bradano Foredeep suggest the need of re-evaluating the potential for large earthquakes/tsunamis, and more in general geological hazard related to submarine sliding masses, along the coast of this highly populated area.



Our ambition is, as stated in the meeting title, to discuss, compare and promote researches able to cope with the societal changes from the specific perspective of the Sedimentology and Sedimentary Geology. We hope to involve in the meeting also scientific communities that, although not directly focused on the sedimentology, use reconstruction of sedimentary processes and of stratigraphic record as main investigation tools, such as marine geology, volcanology, extraterrestrial geology, archeology.

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