

International Conference

From field mapping and landform analysis to multi-risk assessment: challenges, uncertainties and transdisciplinarity Buzău, România, May 16–20, 2018

The International Conference *From field mapping and landform analysis to multi-risk assessment: challenges, uncertainties and transdisciplinarity* took place in Buzău, Romania, between May 16 and 20, 2018. Organized by the Institute of Geography (Romanian Academy) and the Faculty of Geography (Univ. of Bucharest) under the auspices of the International Association of Geomorphologists (IAG) and the Geomorphologists Associations from Romania, Italy, France, Belgium and Greece, the Conference gathered two scientific events with a long history – the *19th Joint Geomorphological Meeting Italy–Romania–France–Belgium–Greece* and the *34th Romanian National Symposium on Geomorphology*, dedicated to 50 years of activity of Pâtârlagele Natural Hazards Research Center.

The Conference gathered 80 participants from 8 countries (Italy, France, Belgium, Greece, Japan, Canada, Poland and Romania), for two days of keynote lectures, oral and poster presentations alternating with two field trips in the Vrancea seismic region (the Curvature Curvature sector of the SE Carpathians). The conference was meant to encourage participation from all geomorphology fields, as well as inter- and transdisciplinary research, to provide a high-level but in the meantime comfortable and friendly framework, able to promote active discussions and challenging scientific debates. The topic of the conference was outlined by 7 keynote lectures (Emil Sever Georgescu: *Seismic landscape of Romania: challenges of a specific paradigm*; Monique Fort: *Earthquakes impact on geomorphology (landforms and processes) in the Himalayas at different time scales*; Takashi Oguchi: *Digital ele-*

vation models and their applications in geomorphology: historical review and future perspectives; Alessandro Chelli: *The activities of AIGeo Working Groups towards a new applied geomorphic map*; Olivier Dewitte: *Landslide hazard assessment in an urban-sprawling context. A geomorphological approach in Bukavu, DR Congo*; Florin Pendea: *Transdisciplinary approaches to advancing knowledge of glacio-isostatic rebound in Northern Canada*; Konstantinos Vouvalidis: *Hydromorphological assessment of suburban torrents for flood protection: the flood event of West Attica, Greece*). Besides these, 23 oral plenary presentations brought into discussions issues like tectonic jointing/control on large landslides occurrence/evolution, seismic landslides, the use of dendrochronology in the study of shallow and deep-seated slides or debris flows, glaciated karst, permafrost distribution modeling, improved landslide scarp detection, geoarchaeology and anthropogenic geomorphology, flood risk and reservoir siltation, anthropogenic subsidence, paleogeographic transformations, medium-term morphodynamics, natural variability and human influence in the evolution of deltas, variability in sediment budgets at river mouths, zoogeomorphic impact of animals in alpine environments or the use of multi-temporal satellite interferometry in landslide detection and monitoring, found their position in the multi-hazard paradigm. During a 3-hours long session, including *2-minutes madness* presentations, 25 posters with the following topics were intensely debated: fluvial multi-temporal evolution and risks (from fluvial terrace formation and channel forming and discharge to financial losses); snow avalanche

susceptibility mapping; paleo-reconstruction of floodplains; coastal evolution patterns and near-shore sandbars positioning; mountain climate variability and its influence on permafrost and frost weathering; geomorphological assessments of major landslides and their role in relief evolution; neuro-fuzzy systems and neural network technology for drainage sub-basins classification and slope erosion by runoff analysis; changing Alpine glacier forelands; hillslope – river channel coupling, etc.

Two field trips have been organized on Friday, May 18 and Sunday, May 20, which aimed at providing a detailed image on the multi-hazard hotspot of Buzău Carpathians and Subcarpathians, on the conceptual framework of single-to-multi-

hazard assessment and on the inter- and transdisciplinarity characteristics of geomorphology within a multi-risk approach.

A multi-hazard hotspot of Europe, Vrancea seismic region is offering the perfect framework for observing, discussing and evaluating a multi-risk environment, where forms and processes, alongside prediction, modeling and validation of single and multi-hazards are fitting perfectly within an extremely complex yet challenging system of approaches. The field trips were focused on high magnitude-low frequency landslides (deep seated, mainly dormant, with large reactivation potential) and their climatic and seismic triggers. Aspects concerning deep-focal seismicity, litho-structural conditioning,



Some of the key case-studies discussed during the field trip: Siriș reservoir, Chirlesti earth flow, Groapa Vantului complex landslide.



Conference snapshots: field explanations at Balta landslide (upper, left), posters presentation (upper, right), Keynote lectures: transdisciplinarity, reviews and perspectives in geomorphology (lower; Assoc. Prof. Florin Pendea, Canada and Prof. Takashi Oguchi, Japan)

active and blind faults have been also discussed. The human impact on the environment was emphasized through case-studies like road and reservoir construction. Morphodynamic mapping, landslide susceptibility and hazard scenarios, numerical and statistical models have been detailed through field examples.

Following the active discussions held during both lectures and field trips, we are positive that the conference opened new research ideas and collaboration initiatives. The 20th edition of the Joint Geomorphological Meeting will take place in Greece, organized by the Hellenic Committee for Geomorphology and Environment.

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