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Extracting subsurface physical properties from natural Earth responses

Organizing Committee: Assoc. Prof. Ionelia Panea, Alexandru Badescu, Maria Constantina, Catalina Lacatusu, Alexandra Stoica

University of Bucharest
Faculty of Geology and Geophysics
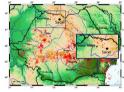
Project summary

The SEG 2017 Field Camp project entitled „**Extracting subsurface physical properties from natural Earth responses**'' will be performed during June – December 2017. The geophysical field campaign will take place between 4-11 September 2017. The investigated area is the Săcel area, Maramureș County, located in the northern part of Romania.

The main goal of this project is to train students how to use geophysical and geochemical methods in order to obtain physical properties, lithological and structural subsurface information. A group of 20 students from Romania and surrounding countries will take part in a series of active and passive seismic, gravity, electrical and geochemical measurements over an area with rough topography and complex geological structure. We want to investigate the shallower part of the subsurface, meaning depths smaller than 300 m, the final results being offered to the local communities/authorities for further environmental enquiries. A secondary goal of this project, but not less important, is to show to the local communities/authorities the non-destructive character of the used geophysical measurements, especially shallow seismic reflection measurements.

Geophysical Field Campaign (4-11 September 2017)

Participants: 20 students from Romania, Croatia, Ukraine and Poland; 5 professors from Romania (UB) and The Netherlands (TUDelft).

Study area – Sacel, Maramures County, Romania

Geophysical measurements:

➢ active seismic
➢ passive seismic (using equipment and instructors from PROSPECTIUNI S.A.)
➢ electrical (ERT and VES)
➢ gravity (using equipment and instructors from PROSPECTIUNI S.A.)
➢ geochemical analyses.

Data processing and interpretation (September-November 2017)
Expected results: Time and depth seismic sections from active and passive seismic data, apparent resistivity sections from electrical data, Bouguer anomaly map from gravity data, map of pollution with traces of hydrocarbons from geochemical data.
Dissemination of results – Workshop (November 2017)
Final report (December 2017)

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