

“Mediterranean volcanoes vs. chain volcanoes in the Carpathians”

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Volcanoes have always represent an attractive subject for students.

Europe has a small number of volcanoes and Romania has none active ones. The curricula is poor in the study of volcanoes. We want to make a parallel between the Mediterranean active volcanoes and the old extinct ones in the Oriental Carpathians. We made an comparison of the two regions in what concerns their genesis, space and time distribution, the specific relief and the impact in the landscape, consequences of their activities, etc. . .

The most of the Mediterranean volcanoes are in Italy, in the peninsula in Napoli's area – Vezuviu, Campi Flegrei, Puzzoli, volcanic islands in Tirenian Sea – Ischia, Aeolian Islands, Sicily – Etna and Pantelleria Island. Santorini is located in Aegean Sea – Greece. Between Sicily and Tunisia there are 13 underwater volcanoes.

The island called Vulcano, it has an active volcano, and it is the origin of the word. Every volcano in the world is named after this island, just north of Sicily.

Vulcano is the southernmost of the 7 main Aeolian Islands, all volcanic in origin, which together form a small island arc. The cause of the volcanoes appears to be a combination of an old subduction event and tectonic fault lines. They can be considered as the origin of the science of volcanology.

The volcanism of the Carpathian region is part of the extensive volcanic activity in the Mediterranean and surrounding regions. The Carpathian Neogene/Quaternary volcanic arc is naturally subdivided into six geographically distinct segments: Oas, Gutai, Tibles, Calimani, Gurghiu and Harghita. It is located roughly between the Carpathian thrust-and-fold arc to the east and the Transylvanian Basin to the west. It formed as a result of the convergence between two plate fragments, the Transylvanian micro-plate and the Eurasian plate.

Volcanic edifices are typical medium-sized andesitic composite volcanoes, some of them attaining the caldera stage, complicated by submittal or peripheral domes or dome complexes. Dacitic volcanoes are smaller in size and consist of lava dome complexes, in places with associated pyroclastic cones and volcanic aprons.

The volcanic history of Carpathian volcanic chain lasts since ca. 15 Ma, with the youngest occurring in the southern chain-terminus; the last eruption of Ciomadu volcano (Harghita) was ca. 10000 years ago.

Using the knowledge acquired during the compulsory curriculum and complementary activities we consider that the outdoor education is the best way to establish a relationship between the theory and the landscape reality in the field. As a follow up to our theoretical approach for the Earth's crust we organized two study trips in our region. During the first one the students could walk in a real crater, see scoria deposits and admire the basalt columns from Racos. In the second activity they could climb the Ciomadu volcano and go down to observe the crater lake St. Anna, the single volcanic lake in central Europe.