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Natural radioactivity and evaluation of radiation hazards in soils from granitoide-granite geological formation in Cuba

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The natural radioactivity of soils at the Cumanayagua Granitoide-Granitic massif in the South Centre of Cuba has been studied. The radioactive ties of soil samples have been measured with a low-background HPGe detector. The radioactivity concentrations of respectively. In order ²³⁸₂₃₂, ²³²₂₃₂ Th and ⁴⁰K ranged from 11.5 to 34.8, 4.6 to 21.7 and 381 to 1201 Bq kg⁻¹, to evaluate the radiological hazard of the natural radioactivity, the radium equivalent activity, the absorbed dose rate, the annual effective dose rate and the external hazard index have been calculated and compared with the internationally approved values. From obtained results, the area can be regarded as an area with normal natural background radiation and this area may not pose radiological risks to the inhabitants owing to harmful effects of ionizing radiation from the natural radionuclides in soils. The studies provide background radioactivity concentrations in Cumanayagua Granitoide area and generate a baseline data for radiological mapping of Cuba in the future.

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The reconstruction of paleo-environment Albo-Aptian sediments of the massive El Hmaima north Tébessa north-eastern Algeria

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The research work will be continued for a correlation between the Albo-Aptian across North Africa to focus on sedimentological, tectonic and paleontological study of Albo-Aptian formations massive El Hmaima-North of Algeria. A systematic study was then initiated consisting of the sampling in washing furniture samples of some Albian levels and a careful sorting of microfossils and minerals under the lens of binocular microscope was done. Hard samples of Aptian were processed by making a thin section to help determine as precisely as possible the characteristics of the levels studied. The material used still exists in geology lab, Tébessa University, Algeria. The massive El Hmaima North Tébessa was located in the territory of the municipality of Boulhef Dyr, Daira of Morsott. Aptian-Albian is characterized by carbonate deposits rich in organic matter levels. This interval is marked by a large marine transgression typically connected to a eustatic rise in second order by tectonic events related to the opening of the western part of the Mediterranean sea and where there is the of the central Atlantic and conditions are paleogeographic.

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