DEVELOPING MEDICAL GEOLOGY IN URUGUAY

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Abstract: In last decade, Environmental Toxicology, Epidemiology, Human and Veterinary Health as well as Geology and Analytical studies have been the basis to develop Medical Geology in Uruguay. The knowledge and performance of these disciplines have been improved by joining research teams and experts from different institutions together with community delegates to face environmental health problems arising from metals and metalloids exposure. Medical Geology has been also a matter of discussion in ecohealth symposiums to understand the relationships among ecosystems and human health impacts providing additional sociological studies. Since 2002, our toxicology research team is involved in this emerging discipline, studying metals and metalloids exposure and environment health impacts within the Medical Geology International group (IGCP project # 454) and the International Medical Geology Association (IMGA), created in 2005. Our contributions have been presented in several scientific activities which were carried out not only in our country, but also regionally, strengthening the integration between the biosciences, public health and geoscience with local communities and facilitating research and training opportunities among them. Our aims are to review these experiences in Uruguay focused on the development of a multidisciplinary and transdisciplinary approach. We describe examples such as studies on lead exposure in children and dogs as sentinels for lead pollution, the selenium, copper and zinc deficiency in human and cattle populations and related factors, and the recent studies on distribution, mobility and population exposure to arsenic from ground water, without available background data. The main results of this new scientific approach in Uruguay are the development of feasible technologies, diagnosis tools, health impairment, with social inclusion as well. We conclude that Medical Geology is a growing field with multiple applications to solve local and regional health issues in Uruguay. As a consequence, the 3rd Hemispheric Conference on Medical Geology will be held in Montevideo, in October 12-16, 2009 to promote interdisciplinary discussions and contributions from the geosciences and biosciences scientific communities to share the recent advances on environmental and health problems studies in this part of the world.