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A SIMPLE METHODOLOGY FOR ASSESSING GROUNDWATER RELATED ENVIRONMENTAL RISK IN SALLIQUELÓ TOWN, ARGENTINA

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ABSTRACT

This paper presents an environmental risk-analysis methodology, as applied to water re-sources, for Salliqueló City (10,000 inhabitants), Buenos Aires Province, Argentina. The analysis proposes the existence of a potentially dangerous source (groundwater used for direct consumption), and its uncertain effects on some component of the environmental system (the people, in this case). The methodology was based on results of a polynomial expression, which was evaluated for each unit area (block). Such an equation considers complex forms for the source, the exposure, and the targets. The resulting values were then transformed into a chromatic scale of ten levels of severity, from low risk (cold colors) to high-risk scores (hot colors). The source was characterized from hydrochemical and bacteriological data, and the number of cesspools per unit area. The exposure took into account the access to safe water supply, as well as socio-economic variables (awareness to exposure, educational level, quality of household, special risky groups). The targets were simply computed as the quantity of people per unit area. It should be pointed out that the evaluation was done for the actual situation, and the scenario 15 years from now due to population growth. The methodology presented is a trade-off between scientifically-sound techniques and simplicity/low cost/data requirements, the latter being the current needs of water resources managers in the Salliqueló City.

Reference: *Peluso, F., J. González and E. Usunoff; A Simple Methodology for Assessing Groundwater Related Environmental Risk in Salliqueló Town, Argentina, Journal of Environmental Hydrology, Vol. 9, Paper 5, February 2001.*

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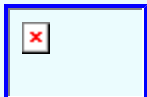
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