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The impact of Ghislain de Marsily in Nuclear Waste Management

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In August 1977, Ghislain de Marsily published in Science an article with the provocative title: "Nuclear Waste Disposal: Can the Geologist Guarantee Isolation?", together with E. Ledoux, A. Barbreau and J. Margat. It was a joint publication between Ecole de Mines de Paris, IPSN, CEA and BRGM and it could be pointed out as the foundation of the French Scientific programme regarding High Level Nuclear Waste (HLNW) Management. The paper explored the various alternatives regarding HLNW management and concluded that deep geological disposal was the most feasible alternative. The authors discussed also the key processes controlling radionuclide migration from a geological repository and concluded that retardation by rock sorption (ion-exchange) was the critical parameter, provided the rest of the waste and groundwater parameters were kept under reasonable values.

Since then and particularly in the 80' and 90's, Ghislain de Marsily has played a fundamental role in devising a strategy towards safe geological nuclear waste disposal in France, Europe and the rest of world. This, he has done by a combination of key scientific contributions as well as his participation in many scientific committees concerning HLNW management.

In my presentation I will discuss how the scientific, but also the personal contributions of Ghislain de Marsily helped to pave the way for the development of HLNW concepts and programmes all around the world.