DEEP GEOLOGICAL DISPOSAL RESEARCH IN ARGENTINA

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ARGENTINA, 2004

INTERREGIONAL TRAINING COURSE ON METHODOLOGIES FOR GEOLOGICAL DISPOSAL, BERKELEY, CALIFORNIA, USA, 2004

DEEP GEOLOGICAL DISPOSAL RESEARCH IN ARGENTINA

-Between 1980 and 1990, First project for a HLW Repository

-Study of 200 granitic bodies all over the country

-Site Selection : Sierra del Medio, Gastre, Chubut Province, for detailed geological, geophysical and hidrogeological studies

-First Stage Report : 1990

-Due to criticism and social fear the Project was officially cancelled : 1992

DEEP GEOLOGICAL DISPOSAL RESEARCH IN ARGENTINA

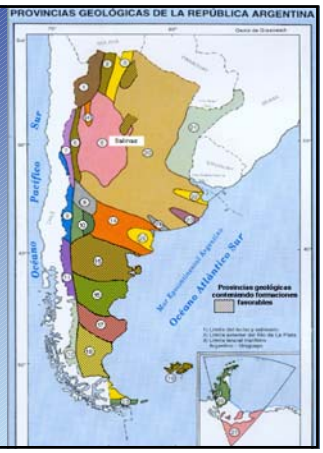
- 1991- CNEA (Comisión Nacional de Energía Atómica) starts a new Project "Study for a favorable geological formations suitable for the siting of Repositories for the Disposal of High, Intermediate and Low-Level Waste"

-1993-1995- Geological investigations for siting of a Medium-Level Waste Repository

-1996- Technical Cooperation Project CNEA-IAEA (ARG/4/004) " Geology of Repositories for High-Level Waste Disposal"

-1996-2001- Identification of favourable geological formations for final disposal : clay formations, volcaniclastics, and evaporites

Geological Units in Argentina

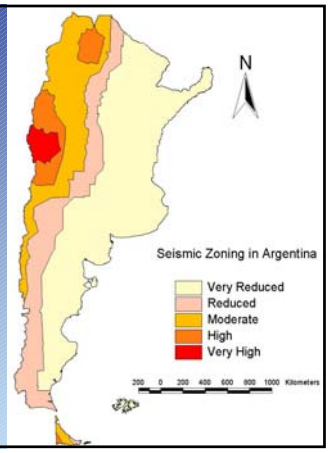


DEEP GEOLOGICAL DISPOSAL RESEARCH IN ARGENTINA

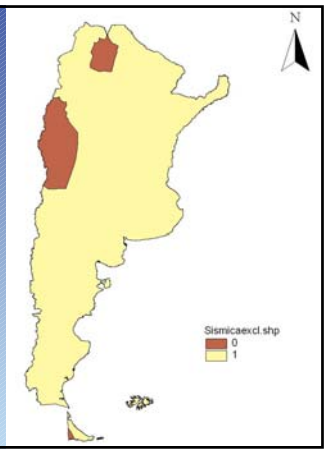
EXCLUSION FACTORS : FIRST STAGE

- SEISMICITY
- VOLCANISM
- NEOTECTONISM
- NATURAL RESOURCES : PETROLEUM AND MINING AREAS
- NATIONAL AND PROVINCIAL PARKS
- CITIES, POPULATION
- MAIN RIVERS, HYDROLOGY
- TOPOGRAPHY

SEISMIC ZONING IN ARGENTINA



EXCLUSION ZONES OF SEISMICITY

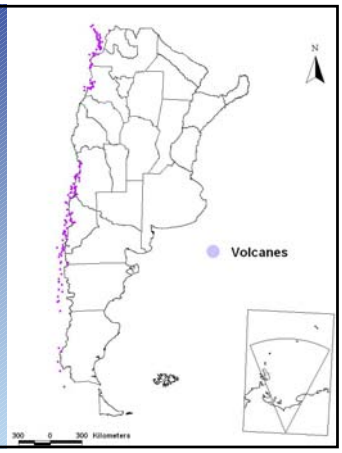


MAP OF QUATERNARY FAULTS

MAP OF QUATERNARY FAULTS

EXCLUSION ZONES OF QUATERNARY FAULTS

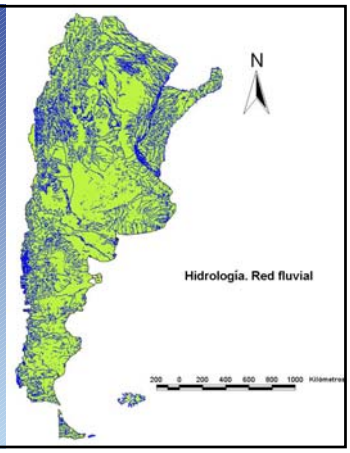
VOLCANIC CENTERS



EXCLUSION ZONES OF VOLCANIC CENTERS

MAIN CITIES

MAIN RIVERS



GEOGRAPHICAL INFORMATION SYSTEMS

A Geographical Information System is a combination of elements arranged for storing, handling and presentation of data referred to a geographic localization.

OBJECTIVE: Organize all the geoscientific data necessary for the selection of areas suitable for siting a high-level waste Repository.

COMPONENTS: hardware, software, data, human resources.

SOFTWARE: ESRI- ARC VIEW 3.2 a

SECOND STAGE: QUALIFICATION OF REGIONS

Different data will be used to qualify regions in order to select areas for siting a HLW Repository.

*SEISMICITY

*NEOTECTONISM

*GEOLOGY

*FRACTURES, LINEAMENTS (satellite information)

*TOPOGRAPHY

*GEOMORPHOLOGY, SLOPES

*HYDROLOGY (surficial)

*HYDROGEOLOGY

*GEOTHERMAL GRADIENTS

*NATURAL RESOURCES

* OTHERS