

EFFICIENT CHRONO-STRATIGRAPHIC DATA STRUCTURE IN GIS

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In recent years the Instituto de Geología Regional y Recursos Minerales, has been developing the Regional Geology GIS Data Structure. One of the most important tasks was the chrono-stratigraphic database definition and design. In order to allow the use and exploitation of digital geological maps, a simple database structure had been made. This case differs from traditional chrono-stratigraphic database structure where there are only direct relationships between geological units and their chrono-stratigraphic definition. The design concept involves a hierarchical data organization taken from the chrono-stratigraphic column where the relationships between classes and sub-classes were preserved. In more detail it is used a special code definition that was designed in order to have a direct correspondence with a specific chrono-stratigraphic division, and indirect relation to their own hierarchical position. There is also a complete chrono-stratigraphic definition, ordered in separate fields, and organized by level. The data structure formed by geological layer, table relationships, chrono-stratigraphic code and chrono-stratigraphic table design allow to the users indexing, classification, direct searching and scalable design.