
Visualizing And Presenting The Subsurface Data In ArcGIS

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The aim of this paper is to demonstrate how to manage a wide range of subsurface data with ArcGis software while enabling explorers to make more efficient use of the vast amounts of available information.

Traditionally geological data was compiled in various reports with many maps and drawings. With large amounts of data accumulating through time the accessibility of such data becomes more and more difficult, hampering fast reviews of such data.

It was therefore decided to capture subsurface data in ArcGis, not only for easy, graphic accessibility of such data, but also to systematically organize such data for future updates and reviews.

The goal of the subsurface data structure built into ArcGIS is to home all geological layers based on a project or a study indexed by hierarchical stratigraphic codes. This hierarchical system follows the definition of Oman stratigraphy and is also linked to corporate well databases and digital document storage. It allows an easy, graphic communication of geological.

The effort to create a geological layer structure has involved many people and a lot of intense discussions. Geologic maps can be extremely complex with many different types of information displayed. This provides a significant challenge when attempting to structure this data.

The process of compilation also presents data quality issues; problems often result from field data collection to data compiled in spreadsheets, historical cad drawings, power point, hard copies and disparate databases. Such problems may include incomplete and inconsistent data, data duplications, synonyms, and ambiguous references to data, lacking referential integrity. Users are unable to quickly search or visualize data for geological reviews. All of these issues clearly point towards the necessity of utilizing a properly structured graphic interface to corporate databases to properly manage and homogenize geological data
