3D visualization for research and teaching in geosciences

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Today, we are provided with an abundance of visual images from a variety of sources.

In doing research, data visualization represents an important part, and sophisticated models require special tools that should enhance the comprehension of modeling results.

Also, helping our students gain visualization skills is an important way to foster greater comprehension when studying geosciences. For these reasons we build a 3D stereo-visualization system, or a GeoWall, that permits to explore in depth 3D modeling results and provide for students an attractive way for data visualization. In this study, we present the architecture of such low cost system, and how is used. The system consists of three main parts: a DLP-3D capable display, a high performance workstation and several pairs of wireless liquid crystal shutter eyewear. The system is capable of 3D stereo visualization of Google Earth and/or 3D numeric modeling results. Also, any 2D image or movie can be instantly viewed in 3D stereo. Such flexible-easy-to-use visualization system proved to be an essential research and teaching tool.