3D/4D geospatial visualization using Makai Voyager

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Abstract

This talk will describe the development and main operational capabilities of Makai Voyager, a PC-based, geospatially-enabled software that can fuse and visualize large, multi-variable data sets that change in space (XYZ) and time (T). The new software has the ability to simultaneously visualize imagery, bathymetry/terrain, true volumetric (voxel), and flow field data in a fully interactive geo-referenced mode. In addition to providing global coverage, a key feature of this software is the capability to interactively visualize large data sets while operating on a desktop PC. This is achieved by using tiling and level-of-detail (LOD) technology for terrain, imagery, and volumetric data, as well as compression techniques and the multithreading capabilities of modern PCs. Analysis tools include 1D and 2D graphs of terrain, volumetric, and flow data; data probes to inspect a point in space/time; and rich scripting capabilities.