Anaglyph Stereo Viewing

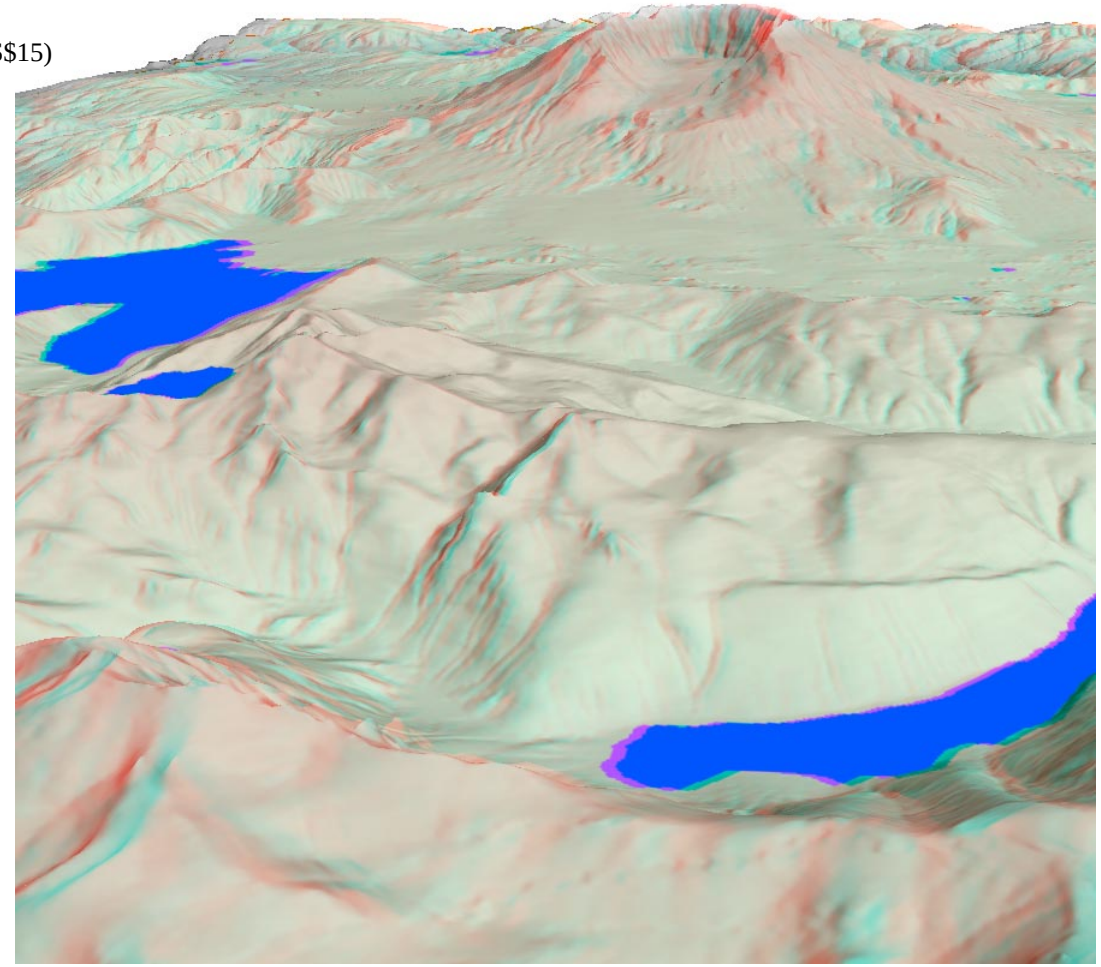
Components:

- Anaglyph stereo 3D glasses—widely available in cardboard or plastic (< US$15)
- your current TNT computer, monitor, and display board

Configurations:

One of the oldest stereo viewing strategies still has value due to its simplicity. Anaglyph stereo rendering requires no special computer hardware and is now even better on the new digital "pixel stable" flat-panel monitors. Left and right views are superimposed in different colors and viewed through simple glasses with corresponding color filters for the left and right eye. Light-weight anaglyph glasses are available in cardboard, plastic, and as clip-ons; all are inexpensive. Because the glasses require no physical connection to the computer, they are completely portable and provide an unencumbered view of the full screen from any position or angle. Simply remove the glasses for normal, non-stereo viewing.

Anaglyph stereo provides a low-cost, highly portable, and distributable option. Anaglyph glasses can be used to view stereo images not only from a monitor, but also from a stereo image projected on a screen in a classroom or at a presentation, or even from a color print. Cardboard anaglyph glasses are available in bulk at low cost and so are ideal for use with large groups in classrooms or presentations. Their low cost also means that you can distribute anaglyph glasses along with a TNTatlas on CD or DVD containing anaglyph stereo 3D views.



Pros:

- solid, stable, portable stereo fusion at a trivial cost
  (flat-panel monitors with discrete pixels and fixed frequency give best 3D fusion)
- uses full resolution of display (no interleaving)
- moderate eye strain; eye fatigue is about the same as using a stereoscope
- stereo screen image viewable by multiple users with their own glasses
- stereo images can be printed for distribution and viewed in stereo

Cons:

- image colors altered by color filters in glasses; best results with grayscale images
- stereo may not be viewable by people with red-green color blindness

High-resolution orthoimages and digital elevation models are now becoming widely available. High-quality stereo views can be rendered from this geodata in TNTmips, TNTedit, TNTview, and TNTatlas to augment 2D and 3D perspective viewing. Stereo viewing is effective in helping identify and map ground conditions and features where direct work in the field is too expensive, time-consuming, or hazardous. Stereo can also be used effectively to explore the 3D spatial relationships between land surfaces and multiple subsurface manifolds. Stereo views can be opened in the Spatial Data Editor in TNTmips and TNTedit to assist in editing geodata in the companion 2D view.

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