

can also take up the challenge (e.g., J. C. Mutter et al., Earth science, human well-being, and the alleviation of global poverty, session presented on 14 December at the 2004 AGU Fall Meeting, San Francisco, California).

In addition, individual scientists in this rich society must develop research programs that will help to improve the condition of so many who have so little and need so much.

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3-D VISUALISATION OF GEOLOGICAL PROCESSES

Scientific studies have seen significant advances in the use of interactive 3-D visualisation display systems and software. For example scientists at the Scripps Institution of Oceanography Visualisation Center (SIO VizCenter – www.siovizcenter.ucsd.edu) use the Fledermaas software developed by Interactive visualisation Systems (www.ivs3d.com) to create three dimensional scene files of various geophysical datasets. One such scene developed by Atuly Nayak and Dr. Debi Kilb at the SIO VizCenter shows the location of major earthquakes in Sumatra, the previous seismic activity, the fault rupture and sensor networks used to gather the data. This file (also published in the *Eos* April 5, 2005) can be downloaded from <http://siovizcenter.ucsd.edu/library/Tsunami/tsunami.htm> and viewed with the free software application called

iView3d (<http://www.ivs3d.com/products/iview3d>). Viewers can rotate, zoom in and out, and pan around the dataset. 3-d interactive visualisations can be used as a powerful research and teaching tool, to analyze any dynamic geological system in three dimensions, such as fault-movement, landslides, magma movement, aquifer dynamics, earthquakes, ore deposit formation etc. A spectacular DVD of 3-D visualisation of various geological processes and natural phenomenon (including the Sumatra earthquake) can be obtained from Atul Nayak (anayak@ucsd.edu) free of charge.

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