Google Earth Models With COLLADA and WxAzygy Transparent Interface: An Example From Grotto Creek, Front Ranges, Canadian Cordillera

Katherine J.E. Boggs, Department of Earth Sciences, Mount Royal University, 4825 Mount Royal Gate sw, Calgary, Alberta, T3E 6K6, kboggs@mtroyal.ca

Mladen M. Dordevic, Department of Physics, Room 306, OCNPS Building, Old Dominion University, 4600 Elkhorn Ave. Norfolk, Virginia, 23529, mdordevi@odu.edu

Scott T. Shipley, WxAnalyst, Ltd., 4458 Oakdale Crescent Ct., Suite 1226, Fairfax, Virginia 22030, sshipley@wxanalyst.com

SUMMARY

Virtual globes represent a paradigm shift for geoscience education. It is now possible to explore real world experiences across the entire Earth, the Moon, and Mars, and also to combine multiple 2D images into one 3D image with topography. Models viewed in Google Earth are more intuitive for visualizing 3D geological structures than traditional paper maps and cross-sections. Here a student-constructed geological map and cross-sections from an introductory field school are used to illustrate the creation of a draped geological map over topography. A custom vertical slider elevates the cross-sections above the topography and a horizontal one restores thrust faulting. Models located in situ in the topography are made query-able via a "cut-away" using the WxAzygy transparent interface.