CATASTROPHIC EVENTS: A HANDS-ON PRE-COLLEGE EARTH SCIENCE CURRICULUM FOR THE 21ST CENTURY

1O'DONNELL, C., 1MACGREGOR, I., 2WOODWELL, G. and 1WRIGHT, T. 1Smithsonian Institution, Washington, DC, USA; 2Mary Washington College, Fredericksburg, VA USA

For years, educators have stressed that students learn better by doing--especially in the sciences. The National Science Resources Center--an organization jointly sponsored by the Smithsonian Institution and United States National Academy of Sciences--strongly believes that students of all ages learn more science content and skills when they engage in collaborative investigation and discovery using everyday materials and the basic equipment of science.

For the first time the United States National Science Education Standards have identified the Earth Sciences as one of the core sciences in the K-12 curriculum. These requirements charge us with the need to develop new teaching materials, and train a new cohort of teachers capable of teaching Geoscience in the 21st century.

Natural hazards--including earthquakes, volcanic eruptions, tornadoes, and hurricanes--are exciting topics for students. Catastrophic Events, developed by the National Science Resources Center, is a hands-on Earth Science module designed to give students the opportunity to model and investigate firsthand the phenomena that cause and result from catastrophic events.

In addition to understanding the scientific processes that cause natural hazards, students address these events from a personal and social perspective. Using modern technologies that transcend time and space, students witness currently active catastrophic events around the world. They examine how these events occur, how they impact our lives, and how we have learned to reduce the risks associated with them. This course has considerable potential to be used in many different countries where natural hazards pose serious threats to life and property.