

Can Earth's own internal heat engine driving volcanism be the harbinger of mass murder?

Life on Earth has nearly been extinguished five times. The mass extinction events are related to changes in Earth's atmosphere and oceans. Although extra-terrestrial meteorites are often blamed, Earth's own forces may be suspect. Heat from within the Earth builds volcanoes. Volcanic eruptions expel rock fragments, such as ash which can travel high into the atmosphere. As well as ash, volcanoes emit gasses such as carbon dioxide, sulphur dioxide. Even small eruptions have local, regional and global climate effects. Giant lava fields coincide with the three most recent mass extinction events. Scaling up impacts from small eruptions to such voluminous eruptions leads to the conclusion that volcanism is a major contributor to climatic disruption, with probable dire consequences for Life.

Dr Karin Orth

Karin Orth's interest in volcanic rocks started when she was completing her Bachelor of Science with Honours degree at Monash University. Her honours project involved mapping volcanic rocks in eastern Victoria under the supervision of Professor Ray Cas and Dr. John V. Wright. She joined the Geological Survey of Victoria, mapping ancient volcanics in eastern and western Victoria before moving to Tasmania to do her PhD. Her PhD at CODES, University of Tasmania was supervised by Professor Jocelyn McPhie and examined volcanic rocks of the Kimberley in Western Australia. After her PhD she worked on volcanic successions across northern Australia for industry and government agencies until taking up postdoctoral research at CODES in 2008. Her most recent project is on an 1800 million year old Large Igneous Province of northern Western Australia.

