Editor's note

Andy Saunders is currently Professor of Geochemistry in the Department of Geology at the University of Leicester, UK. He received a BSc in Geology (1972) from the University of Sheffield, an MSc in Mineral Chemistry (1973) and PhD in Geology (1976) from the University of Birmingham. He worked as a post-doctoral researcher at Birmingham before taking up a lectureship at Bedford College, University of London, in 1979, and moved to Leicester in 1984. He was made Reader in 1988, and Professor in 1997. He held a visiting Fellowship at the University of Wellington, New Zealand, in 1986. Andy is a renowned igneous petrologist and geochemist. He has published over 130 original research papers in leading international journals such as *Nature*, *Science*, *Geology*, *Earth and Planetary Science Letters*, *Journal of Geophysical Research*, *Journal of Petrology*, *Contributions to Petrology and Mineralogy*, *Geochimica et Cosmochimica Acta*, *Chemical Geology* etc. For most of his research career, Andy has investigated the formation of igneous rocks, particularly basalts. Initially, the topic of interest was active and 'fossil' back-arc basins in South America and the Scotia Arc, and then island arc and continental arc magmatism. After a brief sojourn into ocean islands, he began working on large igneous provinces, addressing both their formation and environmental impact. This work has taken him to Madagascar, the Solomon Islands, Russia and China, and has involved ocean drilling in the North Atlantic Ocean. He has been a shipboard scientist on four legs of the Ocean Drilling Program (64, 121, 152 and 163), and was co-chief scientist on one of these (152). His more recent work is devoted to understanding the links between large igneous provinces, climate change and ecosystem collapse. As one of the leading advocates of the mantle plume hypothesis, he strongly supports the proposal that most mass extinctions in the geological record are the result of terrestrial processes, especially mantle plume-related flood basalt volcanism, rather than meteorite impact or other external mechanisms. With Marc Reichow, Andy has developed a webpage about the Siberian Traps and the end-Permian mass extinction (<http://www.le.ac.uk/gl/ads/SiberianTraps/Index.html>)

Marc Reichow is currently a NERC Research Associate in the Department of Geology at the University of Leicester (UK), investigating the 'Extent and environmental impact of the Permo-Triassic Siberian Traps volcanism'. He received a Diploma in Mineralogy (1999) from the University of Karlsruhe, Germany, did research at Birkbeck College, London (2000) and received his PhD in Geology (2004) from the University of Leicester. Marc worked for the Borehole Research Group as Petrophysics Research Assistant and Research Associate at the University of Leicester and participated as Logging Scientist on Integrated Ocean Drilling Program (IODP) Expeditions 308 and 312. His research interests are the formation of igneous rocks, specifically the petrogenesis and timing of emplacement. He worked in the past on volcanic rocks related to the Réunion hotspot, mantle xenoliths from the French Massif Central and granitoids from the Mongolian Transbaikalian Belt. His main research, however, focuses on large igneous provinces, namely the Siberian Traps and related volcanism, currently working with Andy Saunders. Specifically, Marc utilises high precision U/Pb and $^{40}\text{Ar}/^{39}\text{Ar}$ geochronology to refine the timing of volcanic activity in the Siberian province. Radiogenic isotope data are also used in order to reveal magma sources, depth of melting, fractionation, and related petrogenetic processes. His findings have strong implications on models addressing the relationship between volcanism and climate change. Marc's IODP involvement and the idea of an extension of Siberian volcanism to the north inspired him to become more actively involved on research in the High Arctic large igneous province.

Mass extinction is a sharp decrease in the number of species in a relatively short period of time. Several large mass extinction events have been well documented in the geologic record. The Permian-Triassic mass extinction is the largest in intensity in terms of the percentage of genus demise. The cause of mass extinction has been hotly debated, and a number of causes have been proposed, among which asteroid impacts, sea-level falls and flood basalt volcanism are thought to be the major ones. In this invited contribution, Andy and Marc make a convincing case that the Siberian Traps, the largest continental flood basalt volcanism of the kind on Earth, may be the primary trigger of the Permian-Triassic mass extinction. The authors also summarize nicely the current and future trends on issues of mass extinction and the potential effects of human activities on global climate change and the environment in which we live.

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