Geophysical Research Abstracts
Vol. 16, EGU2014-9354, 2014
EGU General Assembly 2014

Reccurent Early Triassic marine anoxia, impacts of volcanics?

Stephen Grasby (1), Benoit Beauchamp (2), and Hamed Sanei (3)

(1) Geological Survey of Canada - Calgary, Canada (sgrasby@nrcan.gc.ca), (2) Department of Gesociences, University of Calgary, Calgary Canada (bbeaucha@ucalgary.ca), (3) Geological Survey of Canada - Calgary, Canada (hsanei@nrcan.gc.ca)

NW Pangea records a complex history of recurrent development of anoxia through the Permo-Triassic Biotic Crises. The Early Triassic record from the Smithian strato-type in the Sverdrup Basin, as well as for the more open ocean setting of Svalbard, have organic carbon isotope records that closely correspond to major fluctuations in the inorganic carbon records from the Tethys, demonstrating truly global perturbations of the carbon cycle occurred during this time. Geochemical proxies for anoxia are strongly correlated with carbon isotopes, whereby negative shifts in ?13Corg are associated with shifts to more anoxic to euxinic conditions, and positive shifts are related to return to more oxic conditions. Rather than a delayed or prolonged recovery, the Early Triassic is characterized better by a series of aborted biotic recoveries related to shifts back to ocean anoxia, potentially driven by recurrent volcanism.