



Volatile elements in CAMP basalts at the Triassic-Jurassic boundary

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The Central Atlantic magmatic province (CAMP) was emplaced during the latest Triassic and earliest Jurassic with peak activity between 201.6 and 201.1 Ma. Geochronologic and biostratigraphic data show that volcanism and shallow level intrusions (sills) were formed in short-lived pulses. Emission of volcanic gases and degassing of sediments intruded by the basalts probably triggered the end-Triassic mass carbon isotope excursions, substantially modified the composition of Earth's atmosphere-ocean system, and ultimately caused the end-Triassic mass extinction. Constraints on the magmatic volatile element budget is given by micro-analytical data both on melt inclusions within the basalts and on magmatic minerals formed at depth within the magmatic plumbing system. Here, we will discuss the origin of carbon and sulfur gases entrapped and emitted by CAMP magmas as well as the importance of volatile elements in controlling the tempo of magma rise through the continental crust.