



The explosive Laacher See eruption (13ka BP) and its tephra fall – insights from archaeological volcanology

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Approximately 13,000 years BP, the Laacher See volcano, located in present-day western Germany (East Eifel volcanic field, Rhenish Shield) erupted cataclysmically. In addition to the near-vent destruction wrought by pyroclastic flows and massive tephra deposition, a swath of airfall ash covered Europe from the Alps to the Baltic. Most previous studies have focused on the near-vent situation, and on unraveling the eruption sequence. As part of an ongoing project investigating the potential ecological and human impacts of this eruption, legacy data harvested from a variety of disciplinary and often obscure sources (palynology, pedology, archaeology, geological grey literature) is now combined with recent tephrochronological work, to provide new insights into the medial, distal and ultra-distal distribution of the Laacher See fallout. This tephra-fall distribution and its utility as a chronostratigraphic marker at archaeological sites also allows an increasingly detailed reconstruction of human impacts on the small forager communities living in Europe at that time. Tephra samples collected from sites across northern Europe also reveal the causal contributions of different tephra-mediated impact mechanisms such as dental abrasion, vegetation impacts, and respiratory and chemical health hazards.