



Understanding the Lacher See eruption through a geoarchaeological lens

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Towards the end of the last glaciation, the Laacher See volcanic eruption was the last major volcanic event in central Europe. Occurring around 13,000 BP in the Eifel, in Western Germany, its fallout plume engulfed large parts of Germany and, to a lesser extent, France and Switzerland. Given the eruption's size, the impact on the lifeways of prehistoric hunter-gatherers is likely to have been profound (Riede, 2017). However studies on the eruption and its effect on human life are still in their initial stages, with previous research lacking sufficient in-depth spatial and temporal coverage to be fully understood. Sites which provide sufficient resolution are few (given issues of taphonomy among others) and current classificatory systems of Late Palaeolithic artefacts hinder the understanding of cultural change in the face of the drastic environmental shift, brought upon by the eruption (Sauer & Riede, in press).

Three major methodological lines of investigation on the effects of the catastrophic event on human life in the medial zone of the fallout are presented in this talk. Archaeological predictive modelling seeks to highlight land-use patterns of prehistoric foragers, and to allow for the discovery of new sites which provide stratified remains of both tephra and hunter-gatherer activity. Secondly, through the assessment of artefact classifications through geometric morphometric methodologies, technological reactions on the eruption are detailed. These two methodologies permit a study of vulnerability and cultural change on varying scales of resolution. Finally, the predictive models and geometric morphometric data are coupled with new research detailing the distribution and magnitude of volcanic fallout in order to create a comprehensive understanding of the spatial variation and influence of the catastrophic event, in terms of both the late glacial landscape and the people living therein. Only through this multifaceted approach can we now begin to understand hunter-gatherer reactions and decisions to this past disaster, towards the end of the Final Palaeolithic.

Riede, F. (2017). *Splendid Isolation: The Eruption of the Laacher See Volcano & Southern Scandinavian Late Glacial Hunter-Gatherers*. Aarhus University Press.

Sauer, F., Riede, F. (in press). A critical reassessment of cultural taxonomies in the Central European Late Palaeolithic. *Journal of Archaeological Method and Theory*.