



## **Probability map of vent opening at Campi Flegrei, Italy**

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We propose a spatial probability map of vent opening at the Campi Flegrei caldera. In technical terms, we estimate the spatial conditional probability for the next vent opening given an eruption occurs. We use a fully Bayesian scheme, where prior information and past data are considered, and both aleatory and epistemic uncertainties are evaluated. This map may have an immediate use in evaluating the most dangerous areas of the caldera, but it is also an important factor to access the more general problem of quantitative volcanic hazard (VH) at Campi Flegrei. In fact, the proposed map is designed to represent a meaningful estimation of the probability at one specific node of the Bayesian Event Tree (BET) model, recently proposed by Marzocchi et al. (2004; 2006a,b), that allows to evaluate VH in a fully structured, Bayesian fashion.