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Current MOD endorsed response to Volcanic Ash Cloud (VAC) threats is to 'avoid' flying through the volcanic ash cloud because risks associated with exposure at different levels are not understood. We need to understand the effects of VAC on the MOD's aircraft fleet; both to quantify the risk for the Operational Duty Holder and understand the implications on cost of ownership from exposure at different concentrations/times. Expert understanding is required on how volcanic ash interacts with the components and materials in military aeroengines over a range of conditions, e.g. different temperatures and pressures.