Samalas and the Fall of the Mongol Empire: A volcanic eruption's influence on the dissolution of history's largest contiguous empire

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Climate responses to major tropical volcanic eruptions bring about complex social effects with lasting historical consequences. Based on several historical episodes, we establish an argument that the weather-altering eruption of Samalas (1257), which shifted the Asian monsoon and caused global weather anomalies, may have played a significant role in the breakup of the Mongol Empire. The empire's end came soon after the largest eruption of the Common Era, and its political situation devolved into open warfare between claimants to the throne. While this has previously been described in the historiography as a purely political series of events guided by individual actors' motivations, the state's collapse occurred in fact amidst a series of epidemics, droughts, famines, and erratic weather which can be plausibly tied to aftereffects of the eruption.

Focusing on a few case studies, textual sources mention a fatal epidemic in southwestern China in 1259 which suddenly ended the life of Möngke Khan, the last ruler of the unified Mongol Empire. Based on terminology and descriptions of the epidemic, records of cholera across the larger region, and an ostensible relationship between other historical mega eruptions and ensuing pandemics, we argue that 1259 may have seen a cholera outbreak. Secondly, we note that the hydroclimatic aftereffect of extreme drought over Mongolia and Eastern China, peaking in 1259-60, weakened cavalry forces based in Inner Asia and the Mongolian Plateau. The drought and resultant famine had major historical consequences by influencing the outcome of the civil war (1259–1264) fought between Möngke Khan's surviving brothers for control of the empire. Mongolia lost its undisputed central position as the state fragmented into at least six independent khanates, marking the end of the unified Mongol Empire. While political events and human decisions played major roles in developments, and societal responses could ameliorate the Samalas eruption's impact, we argue that ignoring it leaves out an important element of our understanding of these events of global historical significance. The work of the researchers is presently being prepared for publication.