Fire vs Fire: Do Volcanoes or Solar Variability Contribute More to Past Climate Change?

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Geologists in particular are quick to ascribe past centennial scale climate changes to solar variability. But successively refined records of volcanism from ice core studies suggest that pulses of volcanism explain more decadal temperature variance than can be linear linked to cosmogenic isotope variations. Formal statistical detection and attribution studies arrive at the same conclusion.

However, there still seems to be some (literally) wiggle room for perhaps a small contribution from solar. An example will be given from a 2000 year northern hemisphere temperature reconstruction that suggests (at least at the time of writing this abstract) that there may be a moderately significant solar linkage at ~200 year period.

Given time, a somewhat disconcerting apparent correlation between pulses of volcanism with the Dalton, Maunder, and Sporer Minima will be discussed. Given the unlikely physically significant correlations between the two, the possibility will be explored that cosmogenic records may have an uncorrected overprint from volcanically driven climate change.

Provisional summary judgement: solar may be at best marginally significant on the multidecadal to centennial time scale.