
The use of fire for ecosystem management: tracking the emergence of *H. sapiens* behavioural modernity in southern Africa

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Résumé

It has been proposed that a greater control and more extensive use of fire was one of the behavioural innovations that emerged in Africa among early *H. sapiens*, favouring their spread throughout the world and determining their eventual evolutionary success. We would expect, if extensive fire use for ecosystem management were a component of the modern human technical and cognitive package, as suggested for Australia, to find major disturbances in the natural biomass burning variability associated with the occupation of Africa by *H. sapiens*. One of the aims of the TRACSYMBOLS project is to examine how key behavioural innovations emerged among *H. sapiens* in southern Africa, explore whether environmental variability influenced this development between 180 and 25 ka (Marine Isotope Stages 6 to 3), and establish if some of these innovations had an impact on African environments. Swift changes in environment in Africa during this period may have accelerated individual and general purpose social learning mechanisms that currently characterize humans. We will present preliminary results of the analysis of microcharcoal preserved in a deep-sea core located off the Orange river's mouth that provides a record of the fire regime variability of this large river catchment basin. The direct correlation between marine and terrestrial (vegetation) climate proxies provides a unique opportunity to tackle fire regime variability in response to climate change and human adaptation. This approach has already been applied to Western Europe, where the fire regime follows the Dansgaard-Oeschger climatic variability and appeared not controlled or influenced by Neanderthals or Anatomically modern populations.

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