Geophysical Research Abstracts
Vol. 16, EGU2014-1955-1, 2014
EGU General Assembly 2014

Did the 8.2 ka event affect southern Africa?

Paul Shaw
University of the West Indies, Geography, St Augustine, Trinidad And Tobago (paul.shaw@sta.uwi.edu)

Palaeoenvironmental reconstruction of southern Africa over the past 4 decades has focused largely on the last glacial cycle, and, more recently, events during to Holocene, interpreted largely at the millennial scale. Little attention has been given to sub-millenial drivers and impacts, other than the Little Ice Age (HolmgreN et al 2001). The 8.2ka event has been recognized in Europe for over half a century from peat cores and dendrochronology. A Bond Event caused by disruption of the Gulf Stream by melting Laurentian ice, it lasted around 100 years and resulted in a fall in temperature in northern Europe of up to 6o C. Recently published high-resolution speleothem records have indicated significant short-term change over a much wider area than previously thought, including the Caribbean, eastern Brazil, Spain, Oman and China. A recent paper on Trinidad (Boyd et al, in press) emphasizes a period of prolonged drought in the southern Caribbean due to a southerly emplacement of the ITCZ. The question then arises whether this shift affected the southern hemisphere, and if so, what would be the likely impacts and evidence.

A study of late Quaternary lake levels in Lake Chilwa, Malawi (Thomas et al 2009) noted a correspondence between high lake stands and Heinrich events, whilst modeling of Atlantic freshwater influx using the HadCM3 GCM indicates negative precipitation anomalies in the Caribbean and west Africa, with a significant positive anomaly in the interior of southern Africa, possibly linked to enhanced monsoonal activity in the Indian Ocean. These patterns in southern and western Africa have been suggested around 8.2 ka in a review of early Holocene data (Burrough & Thomas 2013), but the chronological resolution is not sufficient to conclude the observation. The only speleothem record for this period, T8 in Cold Air Cave, Makapansgat Valley (Holmgren et al 2003) shows an anomaly, but with temporal resolution at a 50 yr sampling interval, this again is speculative.

Working at the centennial scale requires high resolution records. Pending the development of such there is much to be gained by the re-examination of existing data.