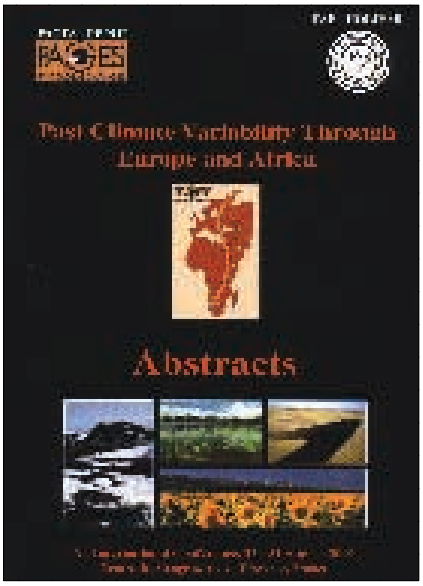
Past Climate Variability Through Europe and Africa

Aix-en-provence, France, 27-31 August, 2001

This synthesis conference presented the state of the art in our understanding of past climate variability and its impacts along the PEPIII transect. The 34 plenary overview talks were organized by region and timescale, with more than 200 posters covering detailed regional studies.

The conference started with a bang when David Battisti, in the first plenary presentation, told the audience that the overturning circulation in the modern North Atlantic has only a modest effect on the climate of Europe, and even less impact elsewhere. He followed up with modeling results suggesting that although the THC may set the timescale of late glacial millennial climate variability, a trigger should probably be sought in the tropics.

The role of the tropics in forcing extra-tropical millennial scale variability came up again when Tim Partridge showed a ~200,000 year long record from the Tswaing impact crater in South Africa. This record shows a strong precessional signal of variability with a period around 40,000 years prior to about 50 kyr



BP. As might be expected based on the insolation forcing, continental African records appear to be anti-phase on precessional timescales. Only after 50 kyr BP does the Tswaing record begin to resemble the millennial scale variability seen in Greenland. A regional aridity index suggests that the onset of dry periods in Southern Africa may correlate with Heinrich events, but if so, precede them by 3,000 years.

The range of topics included monsoons, ENSO, solar activity, alpine glacier and treeline variations and athropogenic effects. In the discussions of the future of PEP3, independent dating and understanding the processes which produce local proxy records, were stressed as absolute requirements to address questions of climatic variability on the scale of the transect as a whole. A major future goal for PEP3 was seen to be providing a long term perspective on resource use and sustainability.

With close to 300 participants, this conference was a huge success, thanks to Francoise Gasse, her "on site" team and to Rick Battarbee and Catherine Stickley in London. One outcome will be a synthesis book edited by Rick Battarbee and Francoise Gasse entitled "Past Climate Variability Through Europe and Africa." This book will be available from Kluwer in 2002.

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