

## IGBP-PAGES OPEN SCIENCE MEETING

The first IGBP-PAGES Open Science Meeting on 'Past Global Changes and their Significance for Future' was organised at the University of London from 20th to 30th April, 1998. More than 250 delegates from all over the world participated in the meeting. The main goals of the meeting were to present state-of-the-art palaeoenvironmental data for a better understanding of past climates and to narrow down uncertainties regarding future climatic changes.

The meeting was organised around invited plenary presentations and high quality poster presentations on topics of climate system variability, climatic forcing, climate system processes, biotic response to climate change and human consequence of climate change.

Ray Bradley, Chairman, International Committee on IGBP, in his introductory review lecture stressed the importance of palaeoclimatic records for predicting future global changes. He highlighted the role of palaeoclimatology in understanding the evolution of climate system and in testing General Circulation Models. The most interesting results of this meeting came from the high resolution ice core records from high and low latitude regions of the world. Thompson presented ice core record, covering the last full glacial cycle, from the Tibetan plateau, indicating a cooling of  $\sim 8^{\circ}\text{C}$  in this region during the last glacial maximum (LGM,  $\sim 20,000$  yrs B.P.). He also compared this record with other ice records from Bolivia and Peru to demonstrate variability in tropical climate during the last glacial cycle and significant cooling during LGM in tropical regions. Alley presented recent data from Greenland ice cores to show abrupt climate changes of the past. Raynaud showed new results on greenhouse gases from Vostok ice core for the past  $\sim 400$  kyr period.

Gagan summarized recent advances made in coral palaeothermometry and highlighted the importance of radiocarbon in corals as a tracer of ocean circulation. He presented high resolution  $^{18}\text{O}/^{16}\text{O}$ , U/Ca, Sr/Ca and  $^{14}\text{C}$  records from reef corals of tropical regions to demonstrate effects of ENSO related changes on sea surface temperatures and climate. Markgraf delivered a lecture on the progress made under the Pole-Equator-Pole Palaeoclimate Project (PEP I) to demonstrate the relationship between climate patterns in the Americas and ENSO. There were several other exciting poster presentations on lake sediment studies carried out under the PEP I, II and III transects. Cortiji presented new evidence of abrupt climatic changes from deep sea sediment cores. Stocker reviewed the recent results from high resolution analyses of polar ice cores, marine sediments and tree rings to explain mechanism of abrupt climate changes. Boyle provided Cd and  $^{13}\text{C}$  evidence from deep sea benthic foraminifera for links between ocean circulation and interstadials over the past 100,000 years. Pederson reviewed various hypotheses to explain glacial decrease in atmospheric carbon dioxide levels. Manabe presented coupled ocean-atmosphere models to show weaker thermohaline circulation pattern in response to the future increase of atmosphere carbon dioxide.

In addition to the above, there were many other very interesting plenary lectures and posters on tree rings, ocean and lake sediments, paleosols, stalagmites, corals, ice cores and speleothems from different regions of the globe.

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