

6th INTERNATIONAL CONFERENCE ON PALAEOCEANOGRAPHY

The 6th International Conference on Palaeoceanography (ICP-VI) was held at Lisbon, Portugal during August 23-28, 1998. The Conference was attended by world's leading palaeoceanographers and climatologists. The main theme of the ICP-VI was to nail down the uncertainties in palaeoclimatic and palaeoceanographic interpretations by using high-resolution faunal and geochemical data from deep-sea sequences and continental ice cores.

The entire conference was divided into 5 sessions: 1. Polar-Tropical and Inter-hemispheric linkages, 2. Does the ocean cause, or respond to, abrupt climatic changes, 3. Biotic responses to major palaeoceanographic changes, 4. Past warm climates and 5. Innovations in monitoring ocean history.

Julie E. Cole, Ralph R Schnieder, Peter deMenocal, R. Toggweiler, A.C. Ravelo, Stefan Nees and A. W. Droxler presented very high quality faunal/geochemical data highlighting the importance of tropics in climatic variability.

Cole presented 230-year coral isotopic records from southern New Guinea that document decade-century level variability in ENSO (El Nino Southern Oscillation) over the past several centuries. ENSO has been suggested as one of the driving mechanisms influencing the moisture budget (drought) in the United States and other Indo-Pacific regions. R. Schnieder observed a lead of southern hemisphere warming relative to the northern hemisphere for Terminations I and II and for the most pronounced warm interstadials during the last glaciation. Palaeoclimatic and palaeoceanographic signals as observed by deMenocal from the sub-polar North Atlantic demonstrates that Holocene was punctuated by numerous ~1500 year cooling events, the most recent being the Little Ice Age (1300-1850 AD). L. Wang suggested that East Asian Monsoon plays a key role in heat redistribution of the global climate system as observed in the last 40 Ky record in South China Sea. Richard Norris argued that hydrographic barriers are more effective in promoting species differentiation rendering planktic species highly susceptible to major palaeoceanographic turnovers. R.F. Anderson came out with a view that speciation by geographic isolation is rare. He suggested that palaeoceanographic events probably do not create species directly by strengthening fronts or closing gateways. Instead, these changes may alter the timing or place of species reproduction. His data supported the closing of Panamanian strait between 4.5 and 3.0 Ma. A.C. Ravelo, using coretops across the tropical Pacific and Atlantic, suggested that assemblages and interspecific differences in the oxygen and carbon isotopic composition of planktic foraminiferal calcite reflect that foraminiferal populations respond to changes in available light and nutrient levels, and not to sea surface temperature. As a result, the calcification depth of a species, and its calcification temperature, are usually not constant. L.C. Sloan and A.W. Droxler presented several evidences of unusual warm climates during the early Cenozoic and mid-Brunhes times. Mark Leckie pointed out that submarine volcanism-hydrothermalism and organic carbon production during middle Cretaceous caused species radiations and extinctions in planktic foraminifera. Time Series Analysis and Climatic Modeling studies by Stefan Nees by GEOMAR, Germany, suggested a warming trend up to 2010 and thereafter a cooling trend. He suggested that after 2010 AD the introduction of greenhouse gases into the atmosphere would get substantially reduced due to depleting natural hydrocarbon resources, and by 3000 AD the global temperature would get normalized to the present level. Dirk Kroon, University of Edinburgh, presented his data on K/T boundary from the Blake Nose (ODP Leg 171B). This was so far the best data on K/T boundary presented from ODP sequences. He observed a major meteoritic impact (observed in core photography), an increase in the iridium content, and a major decrease in $\delta^{18}\text{O}$, just above the K/T boundary suggesting heating of the atmosphere due to meteoritic impact. This is a very

interesting finding, as so far we did not know about the increase in iridium content across the K/T boundary.

Sessions each day concluded with discussions on burning topics in the evening. On the first day of the Conference, the evening discussion was on "Changing Late Quaternary Thermohaline Circulation: How much and what were the effects?" Ed Boyle and Tom Stocker who chaired the session put the following question: 1. Was Younger Dryas a complete shut down of North Atlantic Thermohaline Circulation, 2. Are Younger Dryas, Heinrich Dansgaard Oeschger events or different from each other and 3. What does palaeoceanography teach us for future changes? There were different views presented by different workers. Future researches can be expected to better answer these questions. The second day's evening discussion on "Details of Tertiary Global Cooling: Is Atmospheric CO₂ still a major cause?" was chaired by Maureen Raymo and Wolfgang Berger. Participants suggested that CO₂ has played a very important role in both short-term and long-term climatic variability. On the final day, the Conference concluded with a talk by Michael Bender on "Correlating Ice Core and Deep Sea Climate Records: Implications for climate dynamics."

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NATIONAL SEMINAR-CUM-FIELD MEETING: MEGA EVENTS ACROSS BLAINI-TAL SUCCESSION (TERMINAL PROTEROZOIC - CAMBRIAN), NIGALIDHAR AND KORGAI SYNCLINES, HIMACHAL HIMALAYA

Four day long deliberations (August 7-10, 1998) were held under the aegis of the Centre for Advanced Studies in Geology, Panjab University, Chandigarh to discuss the issues related to the geological events that took place between ~650 Ma to ~530 Ma in the Inner Krol Belt of the Lesser Himalayan Tectogen. The seminar was followed by two days of field work in the Nigalidhar and Korgai Synclines with the last day spent on discussions and summing up of deliberations.

A.D.Ahluwalia, convenor explained the objective of the Seminar. The keynote address was delivered by O.N. Bhargava, formerly of Geological Survey of India. He described the various events that can be recognised within the span of Blaini to Tal.

The late afternoon travel on the very first day to the Renuka Ji - a lake resort and a mythologically significant place near Dadahu - provided the participants with a glimpse of the Quaternary, Siwalik