

OVERVIEW

INTIMATE (INTEgration of Ice-core, Marine And TerrEstrial records), a core programme of the INQUA (International Union for Quaternary Research) Paleoclimate Commission, aims to establish a more detailed knowledge of the nature, timing and regional to global extent of climatic and environmental changes associated with the Last Termination (the end of the Last Glaciation). Initiated in 1997 and facilitated through a series of international workshops, the project strives for improved precision in establishing the ages of, and effecting high resolution correlations between, events of the Last Termination.

There have been two major driving forces behind this. First was the publication of the GRIP and GISP2 ice-core records (Alley et al. 1993; Johnsen et al. 2001), which showed that environmental changes during the Last Termination were more abrupt and more complex than had previously been realized. This highlighted a need for methods that enable the sequence of events during the Last Termination to be reconstructed at a resolution of decades. The second was a growing realization of the severity of problems affecting radiocarbon dates, the most widely used method for dating Last Termination events. INTIMATE members have proposed a number of mechanisms for advancing the state of knowledge. These include an event stratigraphy approach for correlation (Bjorck et al. 1998; Walker et al. 1999; Lowe et al. 2001); improved protocols for both radiocarbon dating (e.g. Wohlfarth 1996; Lowe and Walker 2000) and tephrochronology (Turney et al. 2004); correlation based on stratigraphical methods thought to reflect synchronous regional or global changes, e.g., marine oxygen isotope (MIS) stratigraphy (Hoek and Bohncke 2001); and more effective use of sites with annually laminated sediment sequences (e.g. Litt et al. 2001).

Members of the NZ paleoclimate community attended the inaugural NZ-INTIMATE workshop, Lower Hutt, August 2004. The focus of the meeting was to:

- identify key New Zealand onshore and offshore records for the Last Glacial Maximum (LGM) and the Last Glacial-Interglacial Transition (LGIT).
- promote ways to improve procedures for establishing precise ages of, and effecting high resolution correlations between, onshore and offshore NZ records.

The 46 attendees at the meeting were unanimously in favour of preparing a poster summarizing NZ proxy climate records spanning the last 30,000 years, emphasizing continuous records (e.g. cores) from a variety of latitudes and elevations, supplemented with fragmentary records (e.g. glacial, fluvial, and loessial deposits). The poster reflects work-in-progress that will be updated as new data become available. The poster is intended to assist comparison of the NZ paleoclimate record with records from the wider Australasian region and elsewhere. The goal is the establishment of an Australasian-INTIMATE climate event stratigraphy by the NZ and Australian paleoclimate communities, for presentation at the 2007 INQUA Cairns Symposium.