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Outcomes from the
2004 NZ-INTIMATE Meeting
GNS-Rafter Laboratory, Wellington:
23rd & 24th August, 2004
Convener – Brent Alloway

1.0 UNANIMOUS AGREEMENT

There was unanimous agreement that as outcomes of the NZ-INTIMATE initiative **TWO POSTERS** should be produced by the NZ-INTIMATE community for both the NZ and international INTIMATE communities.

- Poster-1 will deal with continuous proxy records spanning 30 ka to late Holocene (pre-Polynesian arrival) or time zero (now) and will be essentially chronostratigraphic in presentation. This poster will be an appropriate and tangible outcome that can be showcased at the December 2004 Australasian INTIMATE Meeting.
- Poster-2 is essentially interpretative and will follow Poster-1. Poster-2 is intended to present a NZ event stratigraphy as well as identify intervals of warming/cooling, ocean productivity etc. Poster 2 will contain Antarctic and Nthn Hemisphere records for comparative purposes.

2.0 PROJECT COORDINATORS

Persons co-ordinating the production of these posters are: Brent Alloway (AQUA vice-president and NZ rep.), Jamie Shulmeister (NZ-INTIMATE rep.) and Rewi Newnham (coordinator between the NZ and Nth Atlantic INTIMATE groups). There will be a spectacularly high level of consultation with the broader NZ-INTIMATE community – all poster contributions will be clearly and openly acknowledged and/or referenced.

3.0 ASSOCIATED PUBLICATIONS

There was the widely expressed view that if we are going to the effort of producing these posters, then we should also target publications. There's no doubt that the success and longevity of the North Atlantic INTIMATE group has been underpinned by several high profile papers published under the INTIMATE umbrella. So if we can compile Poster-1 satisfactorily, then we should target an immediate publication of its contents for one of the international Quaternary journals.

4.0 AUTHORSHIP

The North Atlantic INTIMATE group worked with a number of authors those who make substantial contributions plus “NZ-INTIMATE members” – we need to use this approach to “label” the work (certainly in any written paper further down the track). All poster contributions will be clearly and openly acknowledged and/or referenced.

5.0 POSTER-1

Completion of this poster is the very first objective - this is the template for the more interpretive event stratigraphy-focussed Poster-2. Poster-1 will detail key continuous proxy records spanning latest Holocene (pre-Polynesian arrival or time zero) to c. 30 ka – augmented where necessary with fragmentary records (i.e. glacial advance, aggradational, loessial, quartz influx in andisols etc.). The continuous records will be in the initial priority and will span a variety of latitudinal and elevational positions and should be linked together wherever possible by tephra marker beds (e.g. Kawakawa Tephra). The poster can be updated on an annual basis to accommodate refinements or additional data.

We should focus on getting this first step (Poster-1) right, then take a step back and consider what it shows before moving on. It might throw up some intermediate steps, such as adding/omitting records, improving chronologies, targeting new sites/records, etc. In other words, we concentrate on one task for the time being – essentially the proposed Poster-1 (augmented with some basic interpretative information ? - originally intended for Poster-2).

Calibrated time down the left hand side with tephra marker time-lines extending from left to right and through the appropriate proxy record

5.1 The Continuous Records Considered For Inclusion Are:

Auckland Maar

This is to be coordinated between (in no particular order): Paul Augustinus, Jamie Shulmeister, Rewi Newnham, Phil Shane). This group decides what proxy record should be included (i.e. C or N contents, palynology etc) and from where (i.e. Pukaki, Onepoto). This needs to be confirmed with Jamie, Paul and Phil about possible inclusion since they were absent from the meeting or had left early and missed the discussion session.

Okarito

This to be coordinated between (in no particular order): Chris Hendy, Marcus Vandergoes and Rewi Newnham. The record will be essentially palynological (podocarp/LPG/grass records)

Otamangakau

This is to be coordinated by Matt McGlone. The record will be essentially palynological. This needs to be confirmed with Matt since he was absent from the meeting.

Kaipo

This is to be coordinated between (in no particular order): David Lowe and Rewi Newnham. The record will essentially be palynological.

Speleothem

This is to be coordinated by Paul Williams. The record will be expressed either as $\delta^{18}\text{O}$ and/or $\delta^{13}\text{C}$

Marine (MD2120 -2121, -2122)

This is to be coordinated between: Barbara Manighetti and Lionel Carter. The record will be expressed as $\delta^{18}\text{O}$ for planktic and/or benthic foraminifera. This group decides what proxy record should be included from which core.

Antarctic (Law Dome or Vostok)

This is to be coordinated by Nancy Bertler (VuW) who will decide which record will be used and which proxy record spanning the late Holocene to 30 ka should be used.

5.2 Fragmentary Terrestrial Records

- Loess - to be coordinated by Alan Palmer, Phil Tonkin and Pete Almond
- Aggradational records - coordinated by Nicola Litchfield
- Glacial records – this is to be coordinated between (in no particular order): Pat Suggate, Pete Almond, David Barrell and Henrik Rother
- Andic Quartz record – Brent Alloway

Integrating fragmentary records (loess, aggradational, glacial, andic). These are very important of course but less amenable so we need to find a way to display them on the continuous timescale figure. One way would be to supply each of the fragmentary record contributors with a draft of the 'continuous' records figure (once produced) and ask them to insert (by hand, if necessary) their data/information as they would prefer to see it displayed in this format (e.g., glacial record might have discrete curve segments denoting major advance/retreat events; loess & aggradational records might have broad intervals delineated by horizontal lines, etc).

5.3 POSTER-1 Inset Maps

Small inset maps to be formulated for Poster-1 showing:

- Location of sites for proxy records
- Shorelines at LGM and late Holocene (pre-Polynesian or time zero)
- Glacial extents at LGM and late Holocene (pre-Polynesian or time zero)
- Vegetation at LGM and late Holocene (pre-Polynesian)

5.4 Issue For Further Discussion

There was debate whether Poster-1 should include some broad-brush climate or other associations for each curve, supplied by the contributor. This information was essentially earmarked for Poster-2 but if this first Poster is to have any value beyond the group then some indication of the climate or environmental inferences for each

curve ought to be made explicit, rather than leaving that up to the viewer. If the selected record is deemed worthy of inclusion on Poster-1 then it must be because the environmental connotations are deemed important - so what are they? Poster-2 might also be some way off, in practical terms, whereas Poster-1 should be achievable now (even with this suggested addition) with a bit of collaborative effort. The need for, or usefulness of, broad-brush climate/environmental associations for each curve on Poster-1 should become clearer as we proceed. Essentially each high-resolution record could appear as a 'panel' with (a) proxy record and (b) 'event interpretation' alongside each other. All NZ-INTIMATE participants will have an opportunity for input as various drafts of Poster-1 are circulated.

6.0 POSTER-2

Once Poster-1 has been received and compiled from the contributors - efforts can then move to Poster-2 - which develops an event stratigraphy for NZ based on the continuous high resolution proxy NZ records presented in Poster-1. Antarctic and Northern Hemisphere (GISP) records to be added for comparative purposes. The content of Poster-2, as stated, will be much harder to achieve in the short term. We should therefore aim for production of Poster-2 well in-advance of the 2007 INQUA Cairns symposium.

7.0 IMMEDIATE TIMELINE

- **POSTER 1 - Mid-October, 2004:** All continuous proxy records (identified above) for Poster-1 to Brent Alloway (b.alloway@gns.cri.nz) on behalf of the NZ-INTIMATE coordinating team (Jamie and Rewi) for compilation. Fragmentary records can be included at a later date (see suggestion above).
- **POSTER 1 - End of October, 2004:** Draft Poster 1 to be circulated to all NZ-INTIMATE members for comment.
- **December, 2004:** Presentation of Poster 1 (vers. 1) at the Australasian INTIMATE Meeting in Tasmania.

8.0 ACKNOWLEDGEMENT

We would like to acknowledge David J. Lowe, Tim Naish, Lionel Carter and Chris Hollis for previewing an earlier draft of this NZ-INTIMATE outcome document to ensure that the essence of this document is an accurate reflection of what was discussed by NZ-INTIMATE participants.

Brent Alloway, Jamie Shulmeister and Rewi Newnham

(NZ-INTIMATE co-ordinators) on behalf of the NZ-INTIMATE community

31st August, 2004