INQUA PROJECT ANNUAL REPORT
FOR FUNDING GIVEN IN 2004 AND BUDGET FOR 2005
(to be sent along with the budget form below to the President of the Commission AND the Vice President of INQUA who oversees your project.)

Deadline January 31st 2005

Project number INQUA 04 07
Project Title: Timing and Nature of Mountain Glacier Advances, from 5e to YD

REVISED REPORT SUBMITTED JUNE, 2005

Primary Commission: Paleoclimate

Subcommission (list if appropriate)

Leader (name, mailing address, e-mail, fax)
Glenn D. Thackray, Professor
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(208) 282-4414 fax
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INQUA funds awarded for 2004 $2500

Breakdown of use of the INQUA funding during 2004:
We have not utilized the 2004 funds to this date. We have been harboring these funds to subsidize travel to two meetings occurring in the next 13 months. As our group is widely distributed geographically, travel to meetings and workshops will be quite expensive and the combined funding will permit substantial subsidy of travel.

Summary of accomplishments during report year
(attach up to one extra A4 sheet if necessary)
The principal progress has been in the areas of project organization, procurement of additional funding, and planning of two project meetings. We have spent considerable time expanding and diversifying representation in our group. We have doubled the size of the project group, and, more importantly, we have diversified the geographic representation both of home institutions and of research expertise. We now have project members with research expertise on all continents except Antarctica. Significantly,
we will have access to the recent digital compilation of last glacial maximum mountain glacier limits compiled by Ehlers and Gibbard, which will be a substantial benefit to this project. We have also progressed in terms of organizing our initial data review by geographic region and delegating leadership for each regional group. We have also created a project website (http://geology.isu.edu/INQUA_project) to facilitate data compilation and project communication.

NOTE added 6/05: We have also begun arrangements with leaders of the SNOWLINE project (i.e., Sandy Harrison) to incorporate the database from this project into the SNOWLINE database (Mark et al., 2005).

Efforts to procure additional funding for group activities and to arrange workshops have consumed considerable time. We originally intended to sponsor several regional workshops and a subsequent summative workshop. The series of workshops would have required substantial funding, and we began to prepare a proposal to the US National Science Foundation International Program to procure the necessary funds. However, NSF terminated the pertinent program at the time we were preparing that proposal. NSF’s new program is narrower in focus, such that we have had to recast the workshop structure. At this time, we are preparing, for submission in May, an NSF proposal that would fund a single, major project workshop in Tibet in 2006. We intend to conduct much of the initial data review portion of our project through workshops at regional conferences, as well as electronically. The first of these workshops will take place at the Geological Society of America annual meeting in October, 2005. We are also sponsoring a topical session at that meeting. Please see website link above for additional information.

NOTE added 6/05: The NSF proposal described above was submitted in May. If funded, it would partially support the project workshop in China in 2006.

Publications directly resulting from project (attach up to one extra page if necessary)
None to date

Other comments
Request for continued funding for 2005 (in US$).
Please outline in brief your planned budget (in US $) for continuing this project*:

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PROPOSED BUDGET (in US Dollars -$)

Travel and subsistence*  
Students $ 4300
Young scientists $ 5400
Scientists from countries with low GDP $________
Others(specify)*
Subtotal $9700

Workshops/meeting registration fees*
Subtotal $1100

Other items (specify)*
Subtotal $_______
Total $10800

Support from non-INQUA organizations (specify sources and amounts) $________
(Note: Proposal was submitted in May to NSF for ca. $53,000)

Requested from INQUA Total $4500
(Note: Total request for 2004-2005, assuming $2500 carryover from 2004)

Signed (project Leader): Glenn D. Thackray
an electronic signature is acceptable

Date: 25 June 2005

* an extra A4 page should be used to detail the budget items (for example what is the mode and cost of travel?, which young scientists are involved?, what is the registration fees rate and is there a reduced rate?, what other items are needed and why? etc.). Itemize any items exceeding US$100
Budget Explanation

Travel to workshops:

1. Project workshop and special topical session, to be held at Geological Society of America annual meeting, Salt Lake City, Utah, USA, October 2005:
   * Students: 3 students,
     Domestic travel: $300 each for domestic airfare subsidy (typical airfare assumed to be $400); $100 each to subsidize meeting/conference registration
   
   Young scientists: 4 young scientists (Smith, Hughes, Briner, Licciardi; see details below)
   Domestic travel: travel for 3 scientists, $400 for airfare subsidy
   International travel: travel for 1 scientist, $800 for airfare subsidy
   $200 each to subsidize meeting/conference registration
   Note: the invitation to Hughes has been held back, pending INQUA budget decisions

Benefit to project of participation by these personnel: A one-day, stand-alone project workshop will be held prior to this international conference, and a special session of talks and posters exploring the specific topic of the project (Thackray and Owen, session coordinators) has been approved for the conference. The intent of the workshop is to report on data compilations to date and to develop specific plans for finalizing that compilation. The special session at the conference is intended to explore mountain glacier chronologies in specific regions, and the underlying processes responsible for regional and global variations in those chronologies. The four young scientists (3 US-based, 1 international) are key personnel in the project, with specific expertise in four distinct regions. The three US-based researchers also have expertise in cosmogenic isotope exposure dating, which lies at the heart of many new glacial chronologies. Their participation is essential both to ensure regional representation for the workshop and session, and to ensure rigorous evaluation of cosmogenic methods. Similarly, the inclusion of 3 students, with expertise in glacial systems in central Asia, western North America, and South America, will contribute to the geographic coverage of the workshop and session and provide opportunities to develop research contacts and expertise.

1. Main project workshop (stand-alone), Beijing or Lhasa, China, April 2006.
   * Students: 5 students (non-China based), 2 students (China based),
     International travel: $600 each for airfare subsidy and subsistence
     Domestic travel (China-based students): $200 each for travel and subsistence

   Young scientists: 5 young scientists (non China-based: Smith, Hughes, Briner, Licciardi, Rother, see details below), 2 young scientists (China based)
   International travel: travel for 5 scientists, $600 for airfare subsidy and subsistence
   Domestic travel: travel for 2 scientist, $200 for travel and subsistence

Benefit to project of participation by these personnel: This workshop will be the major gathering of this research group prior to the 2007 INQUA Congress. The young professionals listed are key personnel in this project (3 are leaders of regional compilation groups), and their participation is
essential. As with the Salt Lake City workshop, the participation of the young professionals and students adds specific regional and topical expertise, and integrates those researchers into the broader research community. The workshop plan includes working sessions on the following topics: 1) Results of mountain glacier data compilations for each of seven continental and subcontinental regions, 2) Integration of compiled data with the SNOWLINE database (Mark et al., 2005, in press), 3) Hypotheses regarding climatic mechanisms responsible for variability in mountain glacier chronologies, 4) Planning of focused projects to test hypotheses regarding glacier-climate relationships. The workshop will also include a visit to field sites on the Tibetan Plateau.

Names and affiliations of young scientists whom we wish to fund:
- Jacqueline Smith, Syracuse University, USA
- Philip Hughes, University of Manchester, UK
- Henrik Rother, University of Canterbury, New Zealand
- Jason Briner, University of Buffalo, USA
- Joseph Licciardi, University of New Hampshire, USA

We are seeking additional young researchers for the project, and will fund their travel as feasible.

* In subsidizing students at a lesser rate, we have assumed that universities typically have funds available to subsidize student travel and that meeting/conference registration for students is typically deeply subsidized.