

# **1999 Progress Report**

## **Southern Hemisphere Permafrost and Periglacial Environments**

The objectives are to create a scientific platform to simulate interaction between permafrost and periglacial researchers in the Southern Hemisphere, and to synthesize permafrost and periglacial data and information, including existing IPA initiatives in the region.

The Working Group organized IPA participation in the XV INQUA Congress, in Durban, South Africa, August 1999. The Working Group and members of the Southern African Adhering Body organized a poster session, a workshop, business meeting and post-conference excursion.

The poster session on Southern Hemisphere permafrost and periglacial research included reviews of periglacial research in continental and maritime Antarctica, Patagonia and the Andes, New Zealand, Tasmania and Southern Africa. Other presentations highlighted Antarctic permafrost and valley asymmetry, maritime Antarctic frost environments, Southern African blockstreams, stone-banked lobes and screes and regional and global data and monitoring systems.

A combined workshop and business meeting chaired by Jan Boelhouwers and Kevin Hall included Ian Meiklejohn (RSA), Eric Colhoun (Australia), Dario Trombotto (Argentina), Jim Bockheim (USA), Stefan Grab (RSA), Warren Dickinson (NZ), Paul Augustinus (NZ), Jerry Brown (IPA/USA), Yoshihiko Kariya (Japan), Francesco Dramis (Italy) and several participants from the UK. Participants reviewed current activities in their respective regions. Limited funding, perceptions of low relevance, and lack of continuity in data collection with respect to periglacial/permafrost research in the Southern Hemisphere were highlighted. Opportunities for climatic change research can be used to raise the profile of permafrost/periglacial research as is the case with PACE in Europe.

The regional networks of the SHWG appear to be a practical way of dealing with the problems of communication; each region has its own representative who can disseminate the information and thus helps overcome language barriers.

Mechanisms and schedules for the compilation of a SH bibliography, permafrost map inventory and research directory were reviewed. It was suggested to have a SHWG representative on the IPA Data Committee to oversee SH data and facilitate CD production for the next International Permafrost Conference.

Mike Clark met with the cochairs to discuss methods for compiling these inventories and development of a SH web site. The SHWG committed to contribute towards the activities of the GTNet-P and its active layer and borehole monitoring.

The desirability of Australia/New Zealand membership in the IPA was discussed with Eric Colhoun and Paul Augustinus. Colhoun described procedures for obtaining access to Australian Antarctic research sites. Application procedures for IPA involvement in the Scientific Committee on Antarctic Research (SCAR) and its Geology Working Group were discussed. The next meeting of the WG is proposed for the 2001 meeting in Japan.

A post-conference excursion to examine the Quaternary periglacial landforms of the Lesotho highlands was organized by the Southern African Permafrost Group. Leaders were Ian Meiklejohn, Paul Sumner, Stefan Grab, Jan Boelhouwers and Kevin Hall. During four days, 27 delegates from 13 countries debated the Quaternary landscape evolution of the highlands. The aim was to outline the problems pertaining to Quaternary periglacial issues in Southern Africa. Day one travel was by vans and four-wheel drive vehicles from Durban through the spectacular scenery of the southern African highlands where delegates were lodged in a mountain chalet at the edge of the main Escarpment. The next two days were spent visiting sites which are central to debates on Quaternary glaciation and periglaciation of the region. Northern Hemisphere delegates from glacial geomorphological background found a resemblance to the flood basalt landscapes of the Faroe Islands and Iceland, while Southern Hemisphere delegates recognized similarities in geological framework with other Gondwana remnants. Issues on valley asymmetry, nivation hollows and cryoplanation benches were debated. One field day centered around a periglacial blockstream about 1.5 km long (cover photograph).

The lack of unequivocal indicators for Quaternary glaciation necessitates reliance on sediment evidence for which a temporal framework has yet to be established. Field trip guidebooks are available from Ian Meiklejohn ([kim@scientia.up.ac.za](mailto:kim@scientia.up.ac.za)).

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