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REPORTS

AUSTRALIAN AND NEW ZEALAND GEOMORPHOLOGY GROUP 4TH CONFERENCE Buchan, Victoria: 5th–12 February 1989

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The 4th Conference of the ANZGG continued the trend set at earlier meetings by assembling away from a major city. Buchan is a small township in eastern Victoria, located in limestone terrain and within easy reach of the Snowy River. The Conference had four main themes in addition to the usual general session, which were: fluvial, coastal and karst geomorphologies, and regional geomorphology of the eastern Highlands of Australia. In addition, recent developments in radiometric and thermoluminescence dating were reviewed in evening workshops. From the hydrological viewpoint three main themes emerged, largely centred on the fluvial geomorphology session.

Changes in alluvial river channels in Australia over a wide range of timescales formed one major theme. At one extreme was the 45 million year history of the Shoalhaven River, NSW described by Jonathon Nott (University of Woollongong). Work on present day rivers focussed on the relationships between channel morphology and hydrologic regime. Wayne Erskine (University of NSW) presented further evidence for the compound nature of many Australian river channels. These reflect the different geomorphological effectiveness of moderate and high magnitude flood events. In essence the large floods excavate wide trenches within which benches are constructed during smaller events. The effects of inundation of wide floodplain areas during major events has led to a range of management responses. The complexity of controls over the form of these channels was well illustrated by Sandra Brizga (University of Melbourne) who described a narrow sinuous sand bed river adjacent to a straight gravel one, with their different behaviour due to subtle thresholds intrinsic to the river systems.

A second theme concerned gravel bedload transport and was approached by speakers from both New Zealand and Australia. Of interest here was the use made of techniques of particle tracing in a study of gravel rivers in NSW, that were introduced to New Zealand in the North Ashburton River (Laronne *et al.*, 1986). Stream power influences on bed material size due to particle sorting were illustrated for the Waignawa River by Hugh Stockbridge (Victoria University of Wellington). A different type of sediment sorting, that which differentiates sand and gravel populations in a mixed bed river, was described by David Dunkerley (Monash University) for the Tambo River where the gravel material forms armour layers overlying sand bars. Stream power was also a factor in explaining channel form variations associated with bedload pulses in laboratory models of braided rivers described by Trevor Hoey (University of Canterbury).

The final main theme concerned management issues. These ranged from the monitoring of bank erosion due to waves generated by tourist boats in the

Franklin River, Tasmania (Axel von Krusenstierna, University of Woollongong) to the problems of effectively communicating information on beach safety (Andrew Short, University of Sydney). Management issues were stressed by the NSW Department of Water Resources study which emphasised the role that geomorphological understanding can play in the design of engineering works. Efficient transfer of this information to the managers and users of water resources is critical for it to be used to full advantage, but this is not always readily achieved. An opportunity to examine some examples on the ground was provided by converting the journey from Buchan to Melbourne into a field excursion. Some spectacular examples of the effects of mismanagement were observed, as well as some of the corrective measures being undertaken.

Overall the Conference illustrated a wide range of locally and globally important issues that are being investigated in Australia and New Zealand. Speakers from both countries raised many similar questions and demonstrated the resemblance of hydrological problems that can be encountered in different physical environments. This Groups' next meeting is scheduled for 1990 in tropical Queensland which should provide a whole new set of hydrological issues to consider.

REFERENCE

Laronne, J. B.; Duncan, M. J.; Rodley, P. A., 1986: Bar dynamics in the North Ashburton River. In Smart, G. M. and Thompson, S. M., (eds). *Ideas on the Control of Gravel Bed Rivers.* Publication No. 9, Hydrology Centre, Christchurch. 248pp: 230–41.

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SYMPOSIUM ON EROSION AND VOLCANIC DEBRIS FLOW TECHNOLOGY, Jogykarta, Indonesia, July 31–August 3, 1989

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This Symposium was the fifth in the "Pacific Rim" series, which began with the meeting in Christchurch in 1981.

A pre-Symposium tour began in Jakarta and travelled southwest via Bogor to Bandung visiting volcanic craters, botanic gardens, and landslide rehabilitation sites. The second day included a visit to Mt Galunggung which was last active in 1982–83. Lava flows, nuées ardentes, and lahars caused extensive damage to villages on the mountains' flanks. Extensive sabo works have since been constructed to minimize the damage from future events. A very long bus trip (14 hours) on the second day was the only drawback in an otherwise enjoyable preamble to the Symposium.

A one-day visit to Mt Merapi, an active volcano with a long history of eruptions and lahar activity, followed by a visit to the 8th century buddhist temple at Borobudur was also enjoyable. Participants had to run the gauntlet of souvenir sellers, all of whom were extremely persistent in their attempts to lighten our wallets. A post-Symposium tour to Bali was also in the programme although I did not attend.

The Symposium itself covered three general topics: volcanic debris flow, surface erosion and sedimentation, and countermeasures. About 150 people attended the meeting, though only half this number were active participants. A contingent of directors and presidents of Japanese construction firms swelled the numbers on the first day of the Symposium. The number of delegates from developed nations other than from Japan was a little disappointing, with one from USA, and three each from Europe, Australia, and New Zealand.

Papers presented covered a wide range of topics and the standard of papers was highly variable, both in presentation and technical content. My only criticism was that the three concurrent sessions could have been reduced to two by shortening the coffee and lunch breaks, and by starting earlier and finishing later. Similarly, in the sessions that I attended, there was not enough time devoted to discussion.

While I did not gain a great deal of new technical knowledge from this conference, I did learn about the social side of natural hazard planning and mitigation. The many ways in which the rural Indonesian people adapt to the ever-present threat of natural disasters was interesting to observe.

Although the technical content of the Symposium was not particularly high, the high standard of organisation, the well-run pre-Symposium field tours, the visit to the volcanic sabo technical centre, and the many splendid cultural events made the symposium worthwhile.

I am most grateful to the New Zealand Hydrological Society and the Forest Research Institute for providing assistance for me to attend and present a paper

at this meeting. The next meeting in this series is in Fiji in June 1990 and is titled: "Research Needs and Applications to Reduce Erosion and Sedimentation in Tropical Steeplands".

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1989 ANNUAL MEETING OF THE GEOLOGICAL SOCIETY OF AMERICIA, St Louis, Missouri, U.S.A.: 6–9 November, 1989

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The 1989 annual meeting of the Geological Society of America was held in St Louis, Missouri — 6–9 November. Adopting "Frontiers in Geoscience" as the main theme, the meeting consisted of 155 technical sessions, 19 field trips, 10 short courses, an exhibition of books/equipment and several associated workshops/forums. Given the large size of the meeting, and concurrent nature of the sessions, it was only possible to attend a small proportion of the technical sessions. Therefore this report refers principally to the sessions dealing with' geomorphic processes and landform evolution; general geomorphology; and engineering geology. Even considering this limited number of sessions, this still represents over 100 presentations, therefore, it is impossible to comment on individual contributions. Anyone interested in further information regarding the individual papers should consult the Abstracts with Programs (*Reference: Geological Society of America (1989), 1989 Annual Meeting — Abstracts and Programs. Volume 21, No. 6, GSA, Boulder, Colorado, U.S.A.).*

Although international in appeal, the vast majority of delegates at the conference were American. Oral presentations were generally of a good quality with most of the visuals being presented as slides. Oral presentations were scheduled for 10 minutes with 5 minutes reserved for discussion. However, presentations invariably exceeded 10 minutes which effectively eliminated th discussion period. In this respect the poster sessions provided a much better forum for discussion.

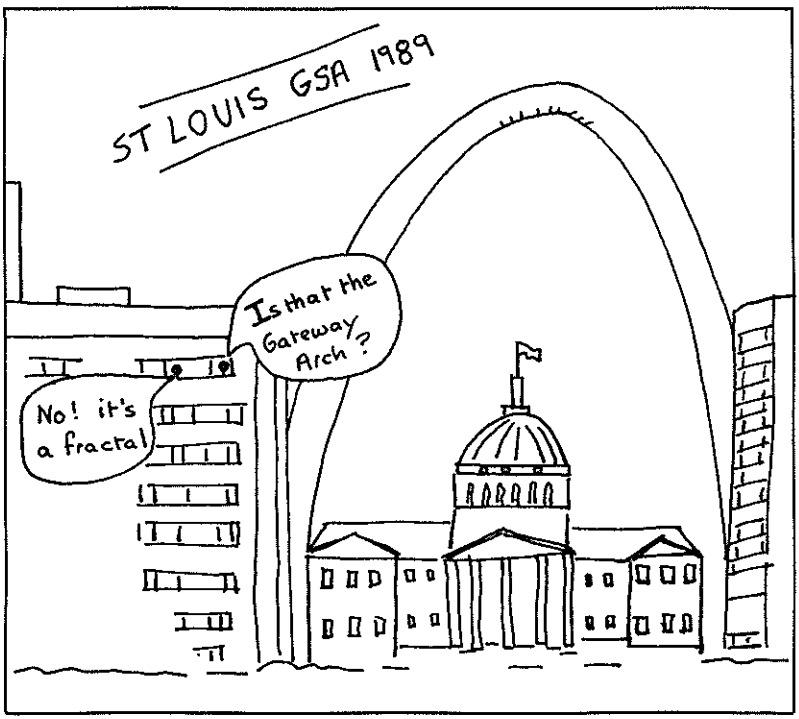
The content of the sessions was highly varied. Many of the papers were simply case studies with no attempt to generalise the findings or even motivate the study. The content of the abstracts was often only partially addressed, and as a consequence the papers were lacking in any firm conclusions. This was made worse by the excessive use of jargon which "clouded" many of the presentations. Theme sessions suffered similarly from the lack of motivation, with the majority of papers failing to address the basic theme. Fractals were used in profusion and, as a result, formed a definite theme running through many of the sessions. However, the motivation for using fractals was rarely established and the majority of these applications added little to the presentations. Fractals were treated, in the main, as a mystical quantity. More encouragingly, it was good to see a number of papers which made innovative use of Digital Elevation Models (DEM) and remote sensing techniques to address geomorphic problems. A handful of papers also examined landform development using numerical models and these papers tended to be the highlights of the sessions. Absent from most of the sessions were papers dealing with surface water hydrology. This probably stems from the fact that this was a geological conference reflecting the dominant interests of geologists in geomorphology and groundwater problems. Nevertheless the sessions stimulated some important "out-of-session" discussions and, although

many of the papers were a disappointment, the conference could still be viewed as a success.

In addition to the technical sessions there was a large exhibition of books and equipment of interest to geologists and earth scientists. This provided an excellent opportunity to view new books and purchase books at greatly discounted prices. The Geological Society of America also provides a very useful employment service whereby applicants can arrange for interviews with employers during the meeting.

The Geological Society of America is to be congratulated on a very efficient, well-run and well supported conference. With over 5,000 delegates this was a great achievement. The Cervantes Convention Centre, St Louis, provided an excellent base for the meeting. I am grateful to the New Zealand Hydrological Society for providing support to attend this meeting.

The next annual meeting of the Geological Society of America will be held in Dallas, Texas, 29 October–1 November, 1990.



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INTERNATIONAL WORKSHOP ON FLUVIAL HYDRAULICS OF MOUNTAIN REGIONS University of Trento, Italy, 3-6 October 1989

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Thanks to a grant from the N.Z. Hydrological Society and funding from Lincoln College I was able to attend this Workshop as part of a study tour to Europe. The Engineering Department of the University of Trento is quite new, and this Workshop displayed the energy and organisational abilities of its staff. The technical sessions, discussions, field visits and social events were well organised and ran smoothly. As an opportunity to make new contacts and renew old ones, to hold informal discussions and develop new research strategies this was an excellent meeting in a most interesting place.

As with many truly international conferences, the use of a single language (English) severely constrained the degree of communication possible in the technical sessions — only three native English speakers were present (each of whom, however, addressed the Workshop Dinner in a different language!). There were some highly technical papers, and some of more pragmatic content, but the hoped-for lively discussions of papers were a little disappointing at the sessions — however they often took place later with the aid of convivial lubrication. Little that was really new was presented, but inch-by-inch progress is clearly being made in understanding (or modelling) armouring, in explaining (or modelling) bedload transport and in numerical modelling of aggradation and degradation in upland rivers. Of particular interest was the high quality of some of the Italian work presented, which often does not receive much publicity, and the occasional East European contribution made an impact by its fervency and enthusiasm. Although the term "Workshop" was not really justified — it was actually a fairly conventional conference — the relatively small number of participants made individual contacts easy to establish.

Overall I thoroughly enjoyed the Workshop. It was well worth going, the food and wine were superb (especially on the "field trip") and I came back with a lot of potentially useful ideas. The Proceedings might be published in due course.