



International Association of Geomorphologists Newsletter no. 14 (3/4 - 1997)

Fourth International Conference on Geomorphology

This conference took place at the University of Bologna, August 28 - September 3, 1997 in association with the 28th Annual Binghamton Symposium. It was attended by 969 delegates from 67 nations; it was thus clearly the largest of the four conferences held to date.

During the conference there were 5 half day and three full day symposia of invited and submitted papers. Topics covered were:

- Antarctic Geomorphology,
- Engineering Geomorphology,
- Environmental Impact Assessment,
- Geomorphology and Global Change,
- Global Tectonics,
- Landslides,
- Magnitude and Frequency and
- Methods and Tools in Geomorphology.

There were 12 sessions of submitted papers that dealt with

- Applied,
- Arid and Sub-arid,
- Fluvial,
- Glacial,
- Karst,
- Littoral and Submarine,
- Periglacial,
- Tectonic,
- Theoretical,
- Tropical,
- Volcanic and
- Weathering and Soils.

Concurrent sessions were unavoidable, but no more than 4 were running at the same time. This minimum of overlapping was achieved by forcing 80% of the 750 submitted papers into poster presentations, a radical innovation at this meeting.

Plenary lectures were presented by

- LESZEK STARKEL (Poland),
- ANA L. COELHO NETTO (Brazil),
- CLIFFORD D. OLLIER (Australia)

representing the international community, and by

- ANGELO VARNI and
- GIOVANNI BATTISTA CASTIGLIONI

from Italy. The presentations

- by Dr. COELHO NETTO "Catastrophic landscape evolution in humid environments" and
- by Dr. GIOVANNI CASTIGLIONI "Geomorphology of the Po Plain"

were particularly memorable.

A significant innovation at this meeting was a Workshop for Young Geomorphologists. Although none was prepared to define "young geomorphologists", over 70 young researchers attended and fired questions at a panel of experienced international geomorphologists. It is hoped that this initiative will be pursued further in Tokyo as it has potential to attract many more practitioners.

A Round Table on Geomorphological Hazards focusing on European research strategies was held. Delegates were given an overview of the aims and results of research funded by the DG XII of the European Commission.

The official publication outlets from the meeting are:

- Earth Surface Processes and Landforms,
- Geomorphologie, Geomorphology,
- Transactions of the Japanese Geomorphological Union,
- Zeitschrift fuer Geomorphologie and
- the International Association of Geomorphologists' Series published by John Wiley and Sons Ltd.

Publication activities will be co-ordinated by ROBERT J. ALLISON at the Department of Geography, University of Durham on behalf of the IAG Executive Committee. Deadline for sending manuscripts to Dr. ALLISON is November 15, 1997.

In addition, the journal "Geografia Fisica e Dinamica Quaternaria" published the Abstracts and the Guide Book for Excursions as Supplements III T.1 and T.2. In 1998, volume T.3 of the same supplement will appear with complete transcripts of the Plenary Lectures and summaries of the contents of each session and symposium. These books can be purchased by writing directly to the Editor of Geografia Fisica e Dinamica Quaternaria,

Prof. PAOLO ROBERTO FEDERICI,
Dipartimento di Scienze della Terra,
Via S.Maria 53,
56126 PISA,
Italy.

The IAG held opening and closing General Assemblies and a Council Meeting of officers and national delegates. At the Council Meeting, a new Executive Committee was elected and it was decided that **the Fifth International Conference on Geomorphology should be held in Tokyo, Japan in 2001**. Vigorous proposals were also received from China and South Africa. A preliminary indication of intent to invite the 6th International Conference to Spain was also received. Regional Conference locations for the period 1997-2001 have not been finalised. At the closing General Assembly, Honorary Fellowships were awarded to

- DENYS BRUNSDEN (UK),
- RICHARD J. CHORLEY (UK),
- LUNA B. LEOPOLD (USA) and
- ANDERS RAPP (Sweden).

STUART M. LANE (UK) was the winner of the Jan De Ploey Prize.

On August 29, a welcome party was held in the courtyard of the Conference Venue; more than 700 geomorphologists were able to sample the distinctive food and wines from each of the major Italian regions. On August 30 there was a formal reception by the University Administration for national delegates followed by a dinner offered by the IAG. On September 2, the Municipality of Bologna hosted a dinner inside the Re Enzo Palace, an example of the medieval magnificence of Bologna. Formalities ended with a farewell party on September 3.

Each day of the Conference, accompanying members had the opportunity to select a different excursion and Sunday the 31st was devoted to 3 cultural and 2 scientific excursions. The cultural excursions were to Venice, Florence and Ravenna and the scientific excursions visited the gypsum karst of Bologna and the Po Delta. There was a pre-conference excursion to the central and southern Alps starting from Milan on August 22 and ending in Bologna August 28. Five post-conference excursions visited north-western Italy, central Italy, Rome and its region, Naples and its volcanoes and Sardinia. In addition to these excursions, 4 special field meetings were organised in co-operation with other international associations:

- Mediterranean erosion (IGU Commission),
- Badland processes (IGU Commission),
- Classical karst (UIS) and
- Mountain permafrost (IPA).

Organisation of the conference was undertaken by the Italian Gruppo Nazionale di Geografia Fisica e Geomorfologia.

- CLAUDIO CANTELLI,
- MARIO CIABATTI,
- CARLO ELMI,
- ENZO FARABEGOLI,
- GABRIELE GIORGI and RODOLFO ZECCHI

were members of the local Organising Committee, chaired

- by the General Secretary PAOLO FORTI.

The scientific programme was prepared

- by CARLO BARTOLINI and LUDOVICO BRANCACCIO for the Sessions,
- by FEDERICO BOENZI and GIUSEPPE OROMBELLI for the Symposia,
- by GIOVANNI PALMENTOLA and GIOVANNI PELLEGRINI for the Excursions and
- by FRANCO DRAMIS for the Special Field Meetings.

- LEANDRO D'ALESSANDRO and ANTONIO ULZEGA chaired the Grant Committee;
- AUGUSTO BIANCOTTI and REMO TERRANOVA organised the Exhibitions.
- PAOLO ROBERTO FEDERICI was editor of the Conference Special Publications.
- National relations were coordinated by ELVIDIO LUPIA PALMIERI and
- International Relations were led by MARIO PANIZZA.

Students from the University of Bologna contributed volunteer labour and professional support for the conference was supplied by Planning Congressi s.r.l.

Sponsors who contributed to the conference included

- the National Research Council of Italy,
- the European Commission Directorate XII for Science, Research and Development,
- the Ministry of Scientific and Technological Research,
- the National Programme of Antarctica Research,
- the Emilia-Romagna Regional Government,
- the Municipality of Bologna,
- the University of Bologna,
- the University of Modena,
- the Banca Popolare dell'Emilia Romagna.

For us the Italian organisers it was a great honour and a true pleasure to serve as hosts. We now look forward to the Fifth International Conference on Geomorphology in Tokyo.

PAOLO FORTI

The New Executive Committee: 1997-2001

The following executive committee of the IAG was elected at the Fourth International Conference on Geomorphology in Bologna for the period 1997-2001.

President: Prof. OLAV SLAYMAKER (Canada)
Vice-President: Prof. MARIO PANIZZA (Italy)
Secretary General: Dr. PIOTR MIGON (Poland)
Treasurer: Prof. BERNARD DUMAS (France)
Publications Officer: Prof. CHRISTINE EMBLETON-HAMANN (Austria)
Members without portfolio:
 Prof. ALBERT PISSART (Belgium)
 Dr. DENISE J. REED (USA)

Co-opted members:
Prof. DIETRICH BARSCH (Past President)
Prof. MOHAMED TAHAR BENZAOUZ (Algeria)
Prof. ANA L.COELHO NETTO (Brazil)
Prof. RICHARD DIKAU (Germany)
Prof. ANDREW GOUDIE (UK)
Prof. OLE HUMLUM (Denmark)
Prof. LAWRENCE K. JEJE (Nigeria)
Prof. TAKASUKE SUZUKI (Japan)
Prof. YING WANG (China)
Prof. PAUL WILLIAMS (New Zealand)

IAG Working Groups

The following Working Groups have been established by the IAG:

- Working Group on Geoarchaeology. Chair: MORGAN DE DAPPER (Belgium)
- Working Group on Geomorphological Consequences of Volcanic Events, including Hazards. Chair: JAN NOSSIN (The Netherlands) and JEAN CLAUDE THOURET (France)
- Working Group on Geomorphology and Environmental Management. Chair: DENISE J. REED (USA)
- Working Group on Large Rivers. Chair: AVIJIT GUPTA (UK).

Joint IDNDR/IAG research project Documentation of Mountain Disasters (DOMODIS) chaired by HANS KIENHOLZ: A first meeting will be held in Bern, Switzerland, 1-2 March 1998, from which it is anticipated that firm research proposals will result.

Honorary Fellows of the IAG 1997

DENYS BRUNSDEN: The influence an individual has on an academic discipline such as geomorphology, can be measured in many ways. Examples include publication, training research students, holding national and international positions of responsibility and the impact made on a particular research area.

Professor Denys Brunsdén is a geomorphologist who has cast his net far and wide, promoting geomorphology across the world, to many both in and outside the discipline. Brunsdén, from the start of his career, has been in the Department of Geography at King's College London. Graduating in Geography when S. W. Wooldridge was Head of Department, Brunsdén spent time working on Dartmoor, before moving east and south to the Dorset coast. The coastal cliffs of Black Ven and Stonebarrow contain two landslide systems which are permanently associated with the name Brunsdén and which he has helped to make household names amongst geomorphologists. Professor Brunsdén has worked in many other parts of the world: New Zealand, Taiwan, the Arabian Peninsula, the Karakoram, to name but a few. However it is to his beloved Dorset and the Chideock Cider Shed where Denys has always returned.

The moment should not pass without a word about Elizabeth. To many with whom Denys has worked Elizabeth Brunsdén has been equally important, providing a home-from-home and an important measure of reality during discussions of increasingly surreal geomorphology. A career such as Denys Brunsdén's would not be possible without an understanding, supportive and tolerant partner. Elizabeth possesses all of these qualities.

Brunsdén has held many posts with distinction. Chair of the British Geomorphological Research Group, Vice-President of the Royal Geographical Society with the Institute of British Geographers, President of the Geographical Association and, of course, first President of the IAG. Brunsdén has published far and wide, helped numerous research students through the pitfalls of a PhD and inspired many through his love of landscape. It is this "love of landscape" which radiates through all his writing whether it be in his seminal contributions to geomorphological theory, his passionate crusading for applied geomorphology or in local scale analytical studies.

Brunsdén's leadership and inspirational qualities are well illustrated by the endorsement he received on the eve of a lecture given to mark his elevation to the rank of Professor Emeritus. A surprise dinner was organised by his past PhD students with the help of Elizabeth. He wanted to know what was happening and tried desperately to find out what was planned. It was one of the few geomorphological problems which Brunsdén was unable to solve until the event (needless to say high magnitude/low frequency) took

place. Every student who was in or could get to the UK for the occasion, including one or two who like to think of themselves as honorary Brunsdon students, attended.

In Professor Brunsdon we have a truly international geomorphologist and an individual worthy of the title Honorary Fellow of the IAG.

ROBERT J. ALLISON

RICHARD J. CHORLEY was an early advocate of quantitative dynamic, systems based studies in geomorphology. He proposed that such studies were more suited to a broad scientific base, the requirements of physical geography and applied work of contemporary relevance than the historically based geological geomorphology which dominated British geomorphology in the first half of the twentieth century. He emphasised the connections between climate, hydrology, geomorphology, physical geography and socio-economic geography. His books *Frontiers in Geographical Teaching* (1965, with Haggett), *Models in Geography* (1967, with Haggett), *Atmosphere. Weather and Climate* (1968, with Barry), *Water, Earth and Man* (sic) (1969), *Network Analysis in Geography* (1969, with Haggett), *Physical Geography: A Systems Approach* (1971, with Kennedy), *Spatial Analysis in Geomorphology* (1972), *Directions in Geography* (1973), *Environmental Systems* (1978, with Bennett) and *Geomorphology* (1984, with Schumm and Sugden) all demonstrate Chorley's genius in recognising the interlinkages in environmental systems. This was his central pedagogic contribution.

Chorley read Geography at Oxford (1948-51) and was a graduate student and instructor in Geological Science at Columbia and Brown (1951-57). He was Professor of Geography at Cambridge University (1974-94), Head of Department (1984-89) and Fellow of Sidney Sussex College. He was awarded the degree of Sc.D. by Cambridge University in 1974; in 1996 the University of Bristol recognised him with an Honorary D.Sc.

With respect to his specific contributions to geomorphology there are five notable achievements: a) his reevaluation of the geomorphic system of W. M. Davis; b) his scholarly three volume *History of the Study of Landforms* (co-authored with Beckinsale and Dunn); c) his interpretation and application of systems theory to geomorphology, expressed most effectively in his 1962 U.S. Geological Survey Professional Paper and in his co-authored volume *Physical Geography: A Systems Approach*; d) his superlative teaching which inspired a whole generation of young geomorphologists and e) his philosophical reflections on the role and nature of geomorphology.

Chorley was influenced by the remarkable graduate student group of which he was a member at Columbia University under Arthur Strahler. The exceptional talents of Stanley Schumm, Mark Melton and Marie Morisawa and others produced an intellectual ferment around the new ideas of quantitative dynamic geomorphology, a model which

Chorley successfully imported to and built upon at Cambridge. A succession of Chorley's students was inspired by the sheer excitement of seeing, measuring and speculating on the geomorphological environment in a new way. All eighteen of his PhD students are active researchers in the UK (12), Canada (3), USA (1), Sri Lanka (1) and the People's Republic of China (1); no fewer than 12 are Professors of Geography.

In the longer term, Chorley will be remembered as a fearless iconoclast, a creative thinker, a man with warmth and a diabolical sense of humour and one who has changed the shape of geomorphology from an exclusive reflection on where landforms have come from to a more balanced discipline incorporating both historical and functional understanding and a commitment to the application of geomorphological insights to problems of societal relevance.

OLAV SLAYMAKER

LUNA B. LEOPOLD was among the founders of quantitative geomorphology, and was the main driving force behind its evolution towards a mechanistic, geophysical science.

His early field studies emphasized the fundamental connections between surficial geologic processes and meteorology, hydrology, and biology. Thus, he stands out as a pioneer of the integrative approach in Earth science. Formally trained as an engineer, then as a meteorologist, and later as a geologist, Leopold combined these influences in his studies of the relations between climate change, land use, and erosion in the southwestern United States. He used measurements of erosion, analysis of meteorological and hydrological records, and stratigraphic and archeological evidence to develop a quantitative, process-based interpretation of the recent geomorphic history of that region.

In the 1950s and 1960s, he revolutionized fluvial geomorphology and set it upon a quantitative, theoretical path by co-authoring a series of papers on stream channels and drainage networks. These papers, which are among the most influential geomorphology papers written in the twentieth century, were concerned with how natural channel dimensions and other hydraulic characteristics are adjusted in response to spatial and temporal variations in flow and sediment load. Furthermore he demonstrated the strong relationship between the hydrologic structure of drainage basins and channel network characteristics. To explain adjustments of channel dimensions and gradient, and the shapes of river meanders, he introduced into geomorphology external concepts which are still being explored by geomorphologists, hydrologists, and engineers. Next, Leopold and his co-workers initiated field and laboratory studies of the morphological and hydraulic characteristics of channel-reach-scale features and processes such as bar formation, pool-and-riffle sequences, and the processes governing river channel patterns. He has consistently emphasized the importance of field measurements of phenomena as varied as hillslope erosion, the mobility of mixed-grain-size bed material, and floodplain construction processes.

Throughout his career, Leopold has published thoughtful analyses of the physical basis of water supply, flood hazard and flood control, landscape esthetics, the hydrologic effects of urbanization, and the analysis of environmental impact of large-scale engineering projects.

As Chief Hydrologist of the Water Resources Division of the United States Geological Survey, he built one of the world's leading institutions of scientific hydrology, integrating the work of geologists, biologists, chemists, glaciologists, paleoclimatologists, and other environmental scientists into hydrology, and establishing an important role for geomorphological contributions to hydrology and sedimentation.

For many decades, Leopold has been one of the most influential geomorphologists in the world - as a researcher, a teacher of students, governments and the general public, and a visionary leader of the profession of geomorphology.

TOM DUNNE

ANDERS RAPP received his academic education at the University of Uppsala, Sweden, where his supervisors in physical geography and geomorphology were Philip Hjulstroem and Ake. Sundborg, the founders of the Uppsala school of process geomorphology. Already as a young research student in 1952 Rapp began to do systematic field studies of contemporary slope processes in northern mountains. The mountain valley of Kaerkevagge, near the Abisko Research Station, was his field base for studies of slope processes, such as chemical weathering, solifluction and frost creep. He measured and quantified the rates of these processes in a nine-year period, and compared them with rapid and sporadic processes such as erosive snow avalanches, debris slides, debris flows and rock falls. He showed that slope processes could be monitored and quantified. Transportation of chemical solutes was the most important of the continuous slope processes in Kaerkevagge in the 1950s. Debris flows after rainstorms and erosive slush avalanches during rapid snow-melting were the most important rapid and sporadic geomorphologic processes in the valley during the same period.

Anders Rapp's doctoral thesis included comparative studies on talus slopes at Tempelfjorden, Spitsbergen, and at some localities in the Alps and in the Norwegian mountains. In 1962 he received the Kirk Bryan Award from the Geological Society of America for his contributions to geomorphology. He was Secretary of the IGU Commission on the Study of Slope Evolution (1960-1968), and Chair of the Commission on Field Experiments in Geomorphology (1976-1980).

In 1965 Rapp was guest professor in geomorphology at Penn State University in USA, and at the INQUA Congress in 1965 he was a participant at symposia and excursions in Yukon, Alaska and the Rocky Mountains of Colorado.

From 1966 he initiated a project of applied geomorphology dealing with erosion and sedimentation of reservoirs in Tanzania. The project focused on watershed studies in the Uluguru Mountains and in semi-arid inselberg plains with silting reservoirs near Dodoma and Arusha in northern Tanzania. Rapp continued to be interested in the importance of extreme events of rainstorms and dust-storms in the tropical areas. He was employed as Deputy Director of the Secretariat for International Ecology in Stockholm (SIES) (1973-1976). The organisation gave advice to the Swedish International Development Agency (SIDA) and to the Swedish National Scientific Council (NFR) on environmental impact of projects on soil and water conservation in Africa.

In 1976 Rapp was appointed Professor of Physical Geography at the University of Lund in southern Sweden. He turned once more to the northern mountains at Abisko, became a member of the Board of the Abisko Research Station and the Swedish Academy of Science's Committee on the Environment. He retired as Professor in 1992, but is still supervising field studies and leading international symposia at Abisko. He has been an active participant and main delegate of Sweden at the first three conferences of the IAG, in Manchester 1985, Frankfurt 1989 and Hamilton in 1993. He has supervised many students in geomorphology of mountain areas and deserts at the universities in Uppsala, Stockholm and Lund and as a guest lecturer in USA and Tanzania. He was editor of *Geografiska Annaler*, series A, (1963-1968), and he is a member of the Advisory Board of the journals *Ambio*, *Geomorphology*, *Geografiska Annaler* and *Progress in Physical Geography*. He is a member of the Swedish Academy of Sciences.

JOHAN LUDVIG SOLLID

Editorial note

This Newsletter is the first one under my editorship. I would like to thank AVIJIT GUPTA and OLAV SLAYMAKER for their efforts to give me a good start as new Publications Officer of the IAG.

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