

## PROGRAMME OF MEETING SESSIONS

*Opening ceremonies: welcome by the Dean of Social Sciences, Carleton University and by Dr John Fyles on behalf of the Royal Society of Canada*

SESSION A. *Tuesday 15 August 1978 09.20h-12.20h.* CHAIRMAN: E. F. Roots  
RAPPORTEUR: W. F. Budd

### EROSION AND DEPOSITION PROCESSES

INVITED PAPER: G. S. Boulton: Processes of glacier erosion on different substrata

B. Hallet: A theoretical model of glacial abrasion

W. H. Mathews: Simulated glacial abrasion

R. J. Rogerson and N. Eyles: Subglacial, englacial, and supraglacial sediment differentiation and erosion in glacial basins

REPORTS ON CURRENT WORK: I. M. Whillans: Erosion by continental ice sheets

SESSION B. *Tuesday 15 August 1978 14.00h-16.10h.* CHAIRMAN: D. A. St-Onge  
RAPPORTEUR: R. J. Rogerson

### THE NATURE OF THE ICE-ROCK INTERFACE

INVITED PAPER: R. Vivian: The nature of the ice-rock interface: results of investigation of 20 000 m<sup>2</sup> of the rock bed of temperate glaciers

J.-P. Benoist: The spectral power density and shadowing function of a glacial microrelief at the decimetre scale

C. Laverdière, P. Guimont, and M. Pharand: Marks and forms on glacier beds: formation and classification

SESSION C. *Wednesday 16 August 1978 09.00h-12.30h.* CHAIRMAN: M. F. Meier  
RAPPORTEUR: A. J. Gow

### THE SLIDING BOUNDARY CONDITION—INVITED PAPERS

INVITED PAPER: L. Llibouty: Local friction laws for glaciers: a critical review and new openings

INVITED PAPER: J. Weertman: The unsolved general glacier sliding problem

INVITED PAPER: B. Kamb, H. F. Engelhardt, and W. F. Harrison: The ice-rock interface and basal sliding process as revealed by direct observation in bore holes and tunnels

SESSION D. *Wednesday 16 August 1978 14.00h-16.30h.* CHAIRMAN: H. Röthlisberger  
RAPPORTEUR: I. M. Whillans

### THE SLIDING BOUNDARY CONDITION—CONTRIBUTED PAPERS

E. M. Morris: The flow of ice, treated as a Newtonian viscous liquid, around a cylindrical obstacle near the bed of a glacier

A. C. Fowler: A mathematical approach to the theory of glacier sliding

R. Brepson: Simulated glacier sliding over an obstacle

W. F. Budd, P. L. Keage, and N. A. Blundy: Empirical studies of ice sliding

W. F. Budd, B. J. McInnes, and I. Smith: Derivation of ice sliding properties from the numerical modelling of surging ice masses

C. S. Weaver and S. D. Malone: Seismic evidence for discrete glacier motion at the rock-ice interface

SESSION E. *Thursday 17 August 1978 09.00h-10.20h.* CHAIRMAN: G. Holdsworth  
 RAPPORTEUR: S. M. Hodge

PHYSICAL AND CHEMICAL PROPERTIES OF DEBRIS-LADEN BASAL ICE AND REMOTE SENSING

- A. J. Gow, S. Epstein, and W. Sheehy: On the origin of stratified debris in ice cores from the bottom of the Antarctic ice sheet  
 S. L. Herron and C. C. Langway, Jr.: The debris-laden ice at the bottom of the Greenland ice sheet  
 R. M. Koerner and D. A. Fisher: Discontinuous flow, ice texture, and dirt content in the basal layers of the Devon Island ice cap  
 A. H. W. Woodruff and C. S. M. Doake: Depolarization of radio waves can distinguish between floating and grounded ice sheets

SESSION F. *Thursday 17 August 1978 11.00h-12.00h* CHAIRMAN: C. F. Raymond  
*and 14.00h-15.00h.* RAPPORTEUR: B. Hallet

PHYSICAL AND CHEMICAL PROCESSES AT THE GLACIER BED

- R. Souchez, M. Lemmens, R. Lorrain, and J.-L. Tison: Pressure-melting within the basal ice of an Alpine glacier indicated by the chemical composition of regelation ice  
 R. C. Metcalf: Energy dissipation during subglacial abrasion at Nisqually Glacier, Washington, U.S.A.  
 D. N. Collins: Sediment concentration in melt waters as an indicator of erosion processes beneath an Alpine glacier  
 D. J. Goodman, G. C. P. King, D. H. M. Millar, and G. de Q. Robin: Pressure-melting effects in basal ice of temperate glaciers. Laboratory studies and field observations under Glacier d'Argentière  
 W. H. Theakstone: Observations within cavities at the bed of the glacier Østerdalsisen, Norway  
 K. Tusima and S. Tozuka: Importance of plastic deformation in regelation of ice

SESSION G. *Thursday 17 August 1978 15.30h-16.30h.* CHAIRMAN: C. R. Bentley  
 RAPPORTEUR: S. J. Jones

REPORTS ON CURRENT WORK: O. Orheim: Plough marks in the Weddell Sea

- D. E. Sugden: Ice-sheet erosion—a result of maximum conditions?  
 C. S. M. Doake: Characterizing the glacier bed using a radio echo technique  
 D. J. Drewry: Estimates of basal heat flux over ice-covered areas from radio echo-sounding  
 H. Engelhardt, B. Kamb, C. F. Raymond, and W. F. Harrison: Observation of basal sliding of Variegated Glacier, Alaska  
 R. Bindshadler: Basal sliding and bed separation: is there a connection?  
 M. F. Meier: Variations in time and space of the velocity of lower Columbia Glacier, Alaska  
 N. Deichmann, J. Ansonge, and H. Röthlisberger: Observations of glacier seismicity on Unteraargletscher  
 I. M. Whillans: Water movement at the base of ice sheets  
 W. F. Budd and N. A. Blundy: Ice at melting point sliding over a pebble slab (a film)

SESSION H. *Friday 18 August 1978 09.00h-10.40h.*

CHAIRMAN: V. K. Prest  
 RAPPORTEUR: R. M. Koerner

CONDITIONS AT THE BASE OF PLEISTOCENE ICE SHEETS

- S. R. Moran, L. Clayton, M. M. Fenton, L. D. Andriashek, and R. LeB. Hooke: Large-scale landforms on the continental glacier bed: description and mode of origin  
 B. E. Broster, A. Dreimanis, and J. C. White: A sequence of glacial deformation, erosion, and deposition at the ice-rock interface during the last glaciation; Cranbrook, British Columbia, Canada  
 I. M. Whillans: Erosion of grooves by subglacial melt-water channels  
 R. P. Goldthwait: Giant grooves made by concentrated basal ice streams  
 T. J. Hughes: The ice-rock interface for the CLIMAP 18 000 years B.P. and 12 000 years B.P. experiments

SESSION I. *Friday 18 August 1978 11.10h-12.10h  
 and 14.00h-15.00h.*

CHAIRMAN: J. W. Glen  
 RAPPORTEUR: W. H. Mathews

SUBGLACIAL HYDROLOGY

- S. M. Hodge: Direct measurement of basal water pressures: progress and problems  
 A. Iken, A. Flotron, W. Haeberli, and H. Röthlisberger: The uplift of the Unteraargletscher at the beginning of the melt season—a consequence of water storage at the bed?  
 W. St. Lawrence and A. Qamar: Transient water flow in subglacial channels  
 B. Hallet: Subglacial regelation water film  
 J. Walder and B. Hallet: Geometry of former subglacial water channels and cavities  
 D. N. Collins: Quantitative determination of the subglacial hydrology of two Alpine glaciers  
 B. Wold and G. Østrem: Subglacial constructions and investigations at Bondhusbreen, Norway  
 W. H. Theakstone and N. T. Knudsen: Englacial and subglacial hydrology, Austre Okstindbreen, Okstindan, Norway

SESSION J. *Saturday 19 August 1978 09.00h-12.00h.*

CHAIRMAN: M. F. Meier  
 RAPPORTEUR: R. J. Rogerson

GENERAL DISCUSSION